



# Progress in indicators to assess agricultural landscape valuation: how and what is measured at different levels of governance



M.L. Paracchini<sup>a,\*</sup>, T.Pinto Correia<sup>b</sup>, I. Loupa-Ramos<sup>c</sup>, C. Capitani<sup>a,1</sup>, L. Madeira<sup>b</sup>

<sup>a</sup> Institute for Environment and Sustainability, Joint Research Centre, European Commission, TP 266, Via Fermi 2749, 21027 Ispra, Italy

<sup>b</sup> ICAAM – Instituto de Ciências Agrárias e Ambientais Mediterrânicas, Universidade de Évora, Pólo da Mitra, Edifício Principal, Gabinete 203 – Apartado 94, 7002-774 Évora, Portugal

<sup>c</sup> CESUR, Instituto Superior Técnico, Av. Rovisco Pais, 1049-001 Lisboa, Portugal

## ARTICLE INFO

### Article history:

Received 7 April 2014

Received in revised form 8 May 2015

Accepted 22 May 2015

Available online 20 June 2015

### Keywords:

Rural landscape  
Composite indicator  
Societal valuation  
Public good  
Policy assessment

## ABSTRACT

Landscape is defined by the European Landscape Convention as “*an area perceived by people, whose character is the result of the action and interaction of natural and/or human factors*”. Many efforts have been devoted in addressing the core concepts on which this definition roots: perception and interaction of men and nature, but when coming to large (continental) scale assessments, the latter prevail on the former.

This paper aims at presenting a framework for a measurable landscape awareness indicator as a key link to the public demand for a specific type of landscape: the agricultural landscape. This is a necessary effort to complement more physically based assessments, which include as well the impact of human activities on landscapes.

The analysis is carried out at different levels of governance: EU and regional, using an example from the Alentejo region in Portugal and EU wide databases, and addresses conceptual and practical questions: what type of societal landscape awareness can be monitored and by whom (e.g., individuals, specific social groups, society as a whole); what are the landscape dimensions that should be assessed; what are the limitations imposed by data-related constraints. By applying the methodology to build composite indicators to map landscape societal awareness, the paper shows the regional and local meaning of indicator approaches developed at European level, presents developments for downscaling to regional level, while introducing the social component to support sound policy development for European rural landscapes.

© 2015 Published by Elsevier Ltd.

## 1. Introduction

The European Landscape Convention (ELC) (Council of Europe, 2000) explicitly advocates the *identification and assessment of landscapes*, “*taking into account the particular values assigned to them by the interested parties and the population concerned*”. This assessment is notably a relevant issue in monitoring the impact on landscape of the implementation of a wide array of sectorial policies. Existing literature on the assessment of values attached to landscape is wide, but it mostly concerns specific study cases carried out at local/regional scale. There is also a wide array of methodolog-

ical toolboxes on how to assess these values, in large part based on public surveys (e.g., Tveit, 2009; Fry et al., 2009). Nevertheless, when addressing the landscapes societal awareness at higher governance levels and under the need to repeat the assessment over predetermined periods of time, these approaches have proved difficult to operationalize. Therefore, the social dimension is most often left out of large scale landscape assessments, and there is a need to develop methodologies based on proxies that convey the social value of landscape (Pinto-Correia et al., 2013; Selman, 2012; Swanwick, 2009), here expressed as social awareness of the agrarian landscape.

The methodological challenge, central in this paper, deals with targeting potential landscape users and their preferences concerning landscapes, at a broader scale than the usual local scale, and with the identification of the most adequate proxies to set a base for the monitoring of policies and management strategies with impact on the landscape. In this context this paper has interlinked aims:

\* Corresponding author.

E-mail addresses: [luisa.paracchini@jrc.ec.europa.eu](mailto:luisa.paracchini@jrc.ec.europa.eu) (M.L. Paracchini), [mtpc@uevora.pt](mailto:mtpc@uevora.pt) (T.Pinto Correia), [isabel.ramos@tecnico.ulisboa.pt](mailto:isabel.ramos@tecnico.ulisboa.pt) (I. Loupa-Ramos).

<sup>1</sup> Present address: Environment Department, University of York, Heslington, York YO10 5DD, UK.

- a) to discuss and propose the possible paths for the assessment of societal awareness of agricultural landscapes across different scales, considering the data availability constraints at the different scales; and
- b) to build and test an indicator frame applicable at different scales of analysis.

In the frame of the presented study, agricultural landscape is conceptualized as a cultural landscape composed by spatial units characterized by the interrelation of different but identifiable components such as natural conditions, farming systems, cultural heritage, and those who manage the land (Paracchini et al., 2011).

Recording changes in the agricultural landscape is high on the agricultural policy agenda as it enables not only to understand the effects of implemented policies but also setting the ground for policy assessment and possibly revision. In this context the development of landscape indicators is framed into an agri-environmental perspective aiming at revealing the interaction between agriculture, natural resources and the environment, also by taking into account societal and cultural values (CEC, 2006a). From whatever perspective it is approached, the issue of monitoring societal landscape awareness remains fully anthropocentric, and values attached to it evolve through time with evolving societal values and reflect developments in science and policy (Selman, 2012; Wylie, 2007). This can be exemplified in recent policy developments. The ELC was launched in the year 2000, in the last decade other concepts have been associated to the value that landscape and ecosystems hold for human welfare, such as public goods and landscape and ecosystem goods and services (Cooper et al., 2009; Kienast et al., 2009; de Groot et al., 2010). Current scientific and policy interest in such concepts, in fact, highlights the importance of non-marketable benefits provided by the natural capital, whether managed or not. The provision of public goods by farmers is recognized in the Common Agricultural Policy (CAP), which, lists among the EU priorities for Rural Development Policy the restoration, preservation and enhancement of the state of European landscapes (EU, 2013).

The ELC strongly recommends that landscape assessment is carried out “by the interested parties and the population concerned”. Even though a scale is not put forward this might be best achieved at a local/regional scale. This is, in fact, the dimension at which individuals can relate themselves to the surrounding landscape and where “the participation of the general public, local and regional authorities” can be enforced. If on one hand, it may be argued that such scale is therefore the most suitable scale to monitor the societal value attached to landscape, on the other when changes are heavily driven by centralized policies such as the CAP, there is a specific request to monitor changes at the scale at which policy is formulated (CEC, 2006a). Direct surveys to record public’s preferences are recognized to be the most suitable methodological approach, and have proven to produce fruitful results, but they are highly time and resource consuming and difficult to generalize (e.g., Barroso et al., 2012; Pinto-Correia et al., 2011, 2013).

It is clear that limitations to the application of surveys at the European level are significant. Thus, a possible option is to derive indicators from conceptual models in relation to consensually derived social benchmarks or goals, and thereby to create proxy indicators. Furthermore, an approach at the EU scale cannot measure the level of landscape awareness by individuals, it measures how society reacts to values broadly acknowledged to a specific landscape, both through public and private initiatives. On this basis, this paper presents a methodology to derive indications of societal awareness of the agricultural landscape from existing EU-wide datasets, as an option to monitor a social component in indicator

frameworks, which have a consolidated tradition of environmental and economic performance monitoring (i.e., CEC, 2006a,b).

## 2. Conceptual frames on societal landscape awareness and scale issues

The example presented in this paper is part of an overall assessment (Paracchini and Capitani, 2011) composing the landscape state and diversity indicator under the agri-environmental frame to monitor the impact of the CAP on the environment, and to set the ground for policy assessment and possible revisions (CEC, 2006a; Eurostat, 2013). The indicator is one of the 28 indicators that compose the framework and though it inherited the efforts for methodological development carried out under the IRENA operation (indicator reporting on the integration of environmental concerns into agricultural policy) (EEA, 2006), in CEC 2006a it is identified as “in need of substantial improvements in order to become fully operational”. Therefore, the landscape state and diversity indicator was fully restructured (Paracchini and Capitani, 2011), starting with the meeting of a panel of landscape experts who discussed, during a two-days workshop, the state-of-the-art and possible implementation at continental scale of such indicator (Paracchini et al., 2011). In Section 5, the need to include a component of societal valuation was highlighted. In the development of this kind of indicator, the challenge has been taken to tackle this issue based on existing data only, collected by official bodies in routinely procedures. The experts’ suggestions have therefore, been matched with data availability and operationalized. During the development phase, the indicator proposal has been discussed within the Working Party “Agriculture and Environment” of the Standing Committee for Agricultural Statistics, composed by services of the European Commission and Statistical Offices of the EU Member States, to ensure that the best available data is used and the methodology is sufficiently reflecting cultural differences across EU regions.

At this regard, the indicator does not aim to carry value judgements, since there is not sufficient information (e.g., surveys) throughout Europe to support this option. The choice for the name (societal landscape awareness) reflects this decision, and is therefore, considered to be more appropriate than the term landscape appreciation. The latter term has been used in literature notably related to landscape esthetics (e.g., Coeterier, 1996; Tveit, 2009); in this paper, “awareness” is extended to the meaning of an overall recognition of value by society (including i.e., the use of the landscape, its safeguard, the enjoyment of its products) transcending the mere esthetical meaning. As a result, the indicator that embeds two of the main purposes identified by Holmes (2006) as underlying human use of rural landscape, namely consumption and protection, setting the third purpose, production, aside since this is driven by mechanisms that do not necessarily affect the whole society. Moreover, trends in driving forces such as intensification, specialization and risk of land abandonment that are indeed affecting landscape changes are already taken into consideration by other indicators in the agri-environmental framework. While pursuing this intent, though, it should nevertheless be kept in mind that aesthetic values themselves cannot be dissociated from the specific interest of observers toward the landscape (Nijnik et al., 2009; Carvalho-Ribeiro et al., 2013a; Surova and Pinto-Correia, 2008; Wylie, 2007).

## 3. Methodology

### 3.1. The European scale

The proposed indicator is based on components that can be effectively calculated on the basis of existing data (collected by offi-

Download English Version:

<https://daneshyari.com/en/article/92884>

Download Persian Version:

<https://daneshyari.com/article/92884>

[Daneshyari.com](https://daneshyari.com)