

A conceptual model to integrate the regional context in landscape policy, management and contribution to rural development: Literature review and European case study evidence



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ARTICLE INFO

Keywords:

Agricultural landscapes
Agri-environmental policy
Landscape services
Place
Geography
Regional assets
Governance
Rural development

ABSTRACT

Agri-environmental policies and planning influence agricultural landscape management, and thus the capacity to deliver landscape services and to contribute to rural viability. Numerous models and frameworks have been developed to improve comprehension of the mechanisms and interrelationships between policies, landscape and socio-economic values and benefits. As social-ecological systems, landscapes are closely depending from the socio-institutional and territorial context of the specific rural locality. The paper proposes an enhanced framework for assessing these mechanisms by acknowledging the critical role of the regional macro-environment. A literature review and the revisiting of evidence from eight European case studies are applied to establish a comprehensive understanding and exemplification of the links between the policies, landscape, ecosystem services and value flows. Results highlight the need for integrative, inter- and transdisciplinary research approaches. Efficient landscape policies require enhanced regional embeddedness and targeting, acknowledgement of user demands and the capability of regional community and governance structures for policy implementation and natural capital valorisation.

1. Introduction

Agricultural landscapes deliver multiple landscape services (LS), which directly or indirectly satisfy human needs, such as food production, pollination, water regulation, or recreation (Termorshuizen and Opdam, 2009). They are therefore important for human well-being, quality of life and the economic competitiveness of rural areas (Dissart, 2007; OECD, 2006). For this reason, the sustainable management of agricultural landscapes, partly driven by landscape policies (i.e. agri-environmental policies (AEP) and regulations), is increasingly under-

stood to benefit rural vitality in a more integrative way (Cooper et al., 2009; ENRD, 2010).

A number of theoretical models and frameworks has been developed to improve the comprehension of the societal benefits from landscapes and the services they deliver. Haines-Young and Potschin (2010) describe the functional links between ecosystem structures and processes, services, and their value for human well-being in form of a 'service cascade'. Recently, van Zanten et al. (2014a) presented a conceptual development of the cascade framework which focuses on agricultural landscapes more specifically (see Fig. 1).

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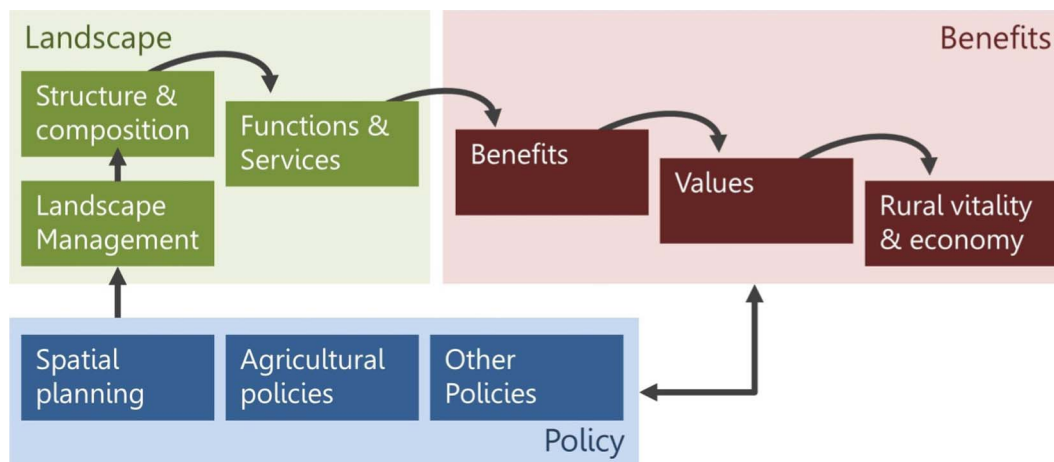


Fig. 1. Cascade framework depicting the links between policy, landscape and societal benefits. Developed by Haines-Young and Potschin (2010) and van Zanten et al. (2014a) (adapted).

Both frameworks outline how the set of policies, regulations, and economic instruments influences ownership structures and farmers' and other land-use actors' management (Palang, 2010), which in turn affects landscape structure and composition, and the abundance and spatial arrangement of landscape elements (Piore and Müller, 2009). In this sense, agricultural management objectives and practice have a decisive influence on the capacity of a landscape to provide LS (Kragt and Robertson, 2014). When values obtained from LS are integrated into the local economy, they contribute to regional welfare and competitiveness. For example, a landscape's visual quality can attract tourists and strengthen the tourism sector (Walter et al., 2011). Moreover, landscape related cultural identity can pay off via marketing of regional products (Belletti et al., 2015).

While the cascade frameworks of Haines-Young and Potschin (2010) and van Zanten et al. (2014a) focussed on disentangling the general functional links between landscapes and socio-economic benefits, no explicit attention has been given to geographic perspective, and to the role of the socio-institutional (i.e. local actors, stakeholders and governance structures) and territorial (i.e. geographic and socio-economic situation) contexts (Ilbery, 1986; Robinson, 2004). In this direction, the concept of a place-based, territorial development was brought forward by the OECD (2006) in the formulation of the 'New Rural Paradigm'. This concept is informed by scholars highlighting the need of localised policies to take the diversity of rural areas and their spatial variability into consideration (Evans and Morris, 1997; Ilbery, 1998). This includes the acknowledgement of the local conditions and assets, prevailing private and public actors, and the civil society (Murdoch et al., 2003). This is particularly relevant, as rural areas in Europe (and elsewhere) are characterised by strong regional heterogeneity (Copus et al., 2011), which determines the effectiveness and efficiency of (agri-) environmental policy and subsequently the potential to benefit rural communities.

Given these considerations, the objective of this paper is to develop a conceptual model that incorporates socio-institutional and territorial dimensions in order to broaden the understanding of the functional linkages between policy adoption, landscape management practice and the generation of societal benefits. In contrast to most existing theoretical frameworks, we explicitly account for local context dimensions in order to enrich the academic debate from a theoretical and methodological perspective and to inform place-specific landscape and agri-environmental policy-making. Doing so, the paper explores a specific geographical dimension, placing at the centerstage the role of spatiality and existing diversity of rural areas, the landscape focus as well as the human-environmental interaction, which represent main domains of the discipline (Woods, 2005).

In Section 2, we expand existing frameworks by including the role of local context properties. In Section 3, the methodological approach is

described. In Sections 4 and 5, the academic literature and empirical case studies are reviewed to examine the socio-institutional and territorial dimensions in detail. Specific mechanisms leading to policy adoption and to the creation of societal benefits are explored. Section 6 discusses our findings in the context of the conceptual framework and presents implications for future research and policy design.

2. Conceptual model

The cascade frameworks' depiction of the cause-effect links has enhanced the general conceptual understanding of how policy action has impacts on environment and landscape as well as human well-being. However, it has been argued that it does not take the complexity of the mechanisms, the causal links between policy, landscape management, services and benefits and the place-specificity fully into account (Braat and de Groot, 2012). In order to further hone the cascade model to cope with place-specificity, the framework developed in this paper integrates mechanisms, occurring at landscape level represented with two main dimensions, namely the (i) socio-institutional and the (ii) territorial.

Regarding the socio-institutional dimension, the concept of socio-ecological systems has raised attention to how local social and institutional settings interact with environmental processes. Especially agricultural landscapes are very much altered by human activity in order to provide socially desired services and benefits (Berkes and Folke, 1998; Matthews and Selman, 2006).

Concerning the territorial dimension, Balmford et al. (2008) highlight the spatial variability of flows of ecosystem services, management costs, and economic benefits due to the distribution of consumers in cities and the agricultural countryside. They stress the need for a spatial approach that acknowledges spatial heterogeneity and allows to identify scale mismatch between ecological and socio-economic scales, spatial trade-offs and distributive consequences of decision-making in the use of ecosystems, which can facilitate effective policy design (Balmford et al., 2008; Lefebvre et al., 2015).

Our conceptual model accordingly distinguishes four areas of interlinkages (A1, A2, B1, B2), to describe the mechanisms between policy and landscape management, as well as between landscape management and the generation of societal benefits (see Fig. 2). The A1 link illustrates how farmers' decisions are crucial for effective implementation of landscape policy. Moreover, the A1 link depicts the role of local stakeholders in the governance process of landscape planning and design. A2 refers to the dependency of societal benefits from the societal demand. This demand is driven by the general public and potential users' and consumers' preferences. It also sheds light on how social capital and networks determine the local and regional capacity to generate downstream benefits for the regional economy and

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