



Contents lists available at ScienceDirect

## Rangeland Ecology &amp; Management

journal homepage: <http://www.elsevier.com/locate/rama>Contributions of Iberian Silvo-Pastoral Landscapes to the Well-Being of Contemporary Society<sup>☆</sup>Diana Surová<sup>a,\*</sup>, Federica Ravera<sup>a,b,c</sup>, Nuno Guiomar<sup>a</sup>, Rodrigo Martínez Sastre<sup>d,e</sup>, Teresa Pinto-Correia<sup>a</sup><sup>a</sup> Institute of Agrarian and Environmental Sciences, University of Évora, Évora 7006-554, Portugal<sup>b</sup> Chair of Agroecology, University of Vic – Central University of Catalonia, Sagrada Família C, 708500 Vic, Spain<sup>c</sup> CREAF, Cerdanyola del Vallès, 08193, Catalonia, Spain<sup>d</sup> National Institute of Agricultural and Food Research and Technology, Les Baragañes, s/n E-33300, Villaviciosa, Asturias, Spain<sup>e</sup> Servicio Regional de Investigación y Desarrollo Agroalimentario (SERIDA). Apdo. 13, E-33300 Villaviciosa, Asturias, Spain

## ARTICLE INFO

## Article history:

Received 15 March 2017

Received in revised form 2 December 2017

Accepted 5 December 2017

Available online xxxx

## Key Words:

agriculture

extensive

goods and services

Mediterranean

qualitative assessment

society

## ABSTRACT

Assessments of society's perceptions of rangeland systems offer insights into the motivations, cultural beliefs, and values that can support landscape conservation and the everyday decisions of landowners. Silvo-pastoral landscapes, the grazed oak woodlands known as *montado* in Portugal and *dehesa* in Spain, are the main rangelands of southwestern Iberia. At the interface of complex interactions between natural processes and human activities, they have potential to deliver multiple services at the ecosystem level. However, the actual rendering of their potential to the well-being of contemporary society has not been comprehensively documented. This paper aims to enrich research perspectives and identify benefits and challenging aspects of silvo-pastoral landscapes through the lens of society well-being. An integrated socioecological perspective is used to examine one case study in Portugal and one in Spain. To better understand their context, *montado* and *dehesa* are assessed relative to other landscape types in the studied areas. A qualitative approach assesses tangible but also intangible aspects. The interviewed stakeholders include members of rural communities, public authorities, land managers, and researchers. Results reveal similar benefits and challenges in *montado* and *dehesa*. Interviewees considered them to have numerous sociocultural and environmental benefits. These were mainly regulatory services but also intangible benefits such as cultural identity, aesthetic qualities, and local knowledge. Nevertheless, a rendering of their full potential to society well-being has numerous challenges. These systems were believed to struggle economically, due to the low prices for the goods produced and a high dependence on subsidies. Their environmental vulnerability was also highlighted. Critical challenges for future research and policy interventions are identified for both case studies. Moreover, we encourage the wider application of approaches to rangelands focusing on well-being, as they provide a complement to ecological and economic perspectives that can improve understanding of social-ecological systems.

© 2017 The Society for Range Management. Published by Elsevier Inc. All rights reserved.

## Introduction

Assessments of social perceptions of rangeland systems offer insights into the motivations, cultural beliefs, and values that can support landscape conservation and the everyday decisions of landowners

<sup>☆</sup> This work was funded by National funds through FCT - Foundation for Science and Technology under the Project UID/AGR/00115/2013. The FCT also funded the postdoctoral scholarships of the leading author with the reference SFRH/BPD/77649/2011 and the second author with the reference SFRH/BPD/104956/2014. The second author also recognizes the funding of the Ministry of Economy, Industry and Competitiveness (Spain) (IJC1-2015-25586). The work in Sierra Morena (Spain) was realized under the project BIOPAIS funded by the Ministry of Science and Technology (Spain), Plan Nacional I+D+i (n° CGL2011-30266) and with the collaboration of the colleagues José Antonio González and César Augustin López de la Universidad Autónoma de Madrid.

\* Correspondence: Diana Surová, Instituto de Ciências Agrárias e Ambientais Mediterrânicas (ICAAM) Universidade de Évora, Portugal.

E-mail address: [dsurova.mail@gmail.com](mailto:dsurova.mail@gmail.com) (D. Surová).

(Mascia et al., 2003). Both social and ecological perspectives should play their part in articulating more clearly the trade-offs in sustaining valuable social-ecological systems and help to deal with their complexity and change. Studies addressing the social perspectives on social-ecological systems are particularly lacking (Oteros-Rozas et al., 2014), even though this kind of assessment has been recognized as a particularly relevant tool for land management and policy planning (Plieninger et al., 2004; Martín-López et al., 2012). In particular, qualitative valuation from a society-based perspective can bring a more in-depth understanding of social-ecological systems (Garrido et al., 2017) and can also identify the often neglected nonmaterial (intangible) benefits, which are of substantial significance for societal well-being (Chan et al., 2012). It has been recognized that the well-being approach has potential to enrich ecological approaches with the missing societal dimension (Armitage et al., 2012). A perspective centered around well-being provides a more holistic outlook on issues, focused as it is on the

<https://doi.org/10.1016/j.rama.2017.12.005>

1550-7424/© 2017 The Society for Range Management. Published by Elsevier Inc. All rights reserved.

Please cite this article as: Surová, D., et al., Contributions of Iberian Silvo-Pastoral Landscapes to the Well-Being of Contemporary Society, Rangeland Ecology & Management (2017), <https://doi.org/10.1016/j.rama.2017.12.005>

stakeholders while recognizing other aspects and the complexity of priorities, strategies, and actions. It can be helpful in finding 1) adequate thresholds between multiple material and nonmaterial benefits relevant for people and 2) between the individual and the collective, both stepping stones for sustainable development (Kjell, 2011; Costanza et al., 2016).

Several studies have shown the influence of landscapes on the well-being of people (e.g., De Vries, 2006; Russell et al., 2013) and underline the multidimensionality of these relationships (e.g. Abraham et al., 2010; Bieling et al., 2014). The landscape can impact multiple levels of human well-being (i.e., personal, community or societal), and all of them are significant for assessing social-ecological systems (Oteros-Rozas et al., 2014). Scaling up from individual to community and society well-being puts the focus on the interplay among individual, relational, and collective processes including the social, psychological, and cultural aspects required to live well (Deneulin and McGregor, 2010).

Nevertheless, well-being as a concept is not only multidimensional but also context specific. Each sociocultural context develops its model of what matters for well-being (Mathews and Izquierdo, 2010). Research comparing subjective well-being across cultures shows that some experiences are comparable across nations, while others are unique (Tov and Diener, 2007). Context-based knowledge about linkages between landscape and well-being is therefore required (Rogers et al., 2012; Scott, 2012). The ways in which landscape changes affect people's lives should be studied at local and regional scales so that adequate policy and management options can be designed (Egoz, 2011; Bieling, 2014).

Nowadays, well-being is also a policy goal: It is accepted as an objective of development (e.g., MA, 2005; OECD, 2015) despite the challenges of formulating a universal definition. The *Millennium Ecosystem Assessment* (MEA) (MA, 2005) highlights how ecosystems and the services they provide are necessary to achieve human well-being (e.g., Haines-Young and Potschin, 2010; Iniesta-Arandia et al., 2014). More recently, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) has focused on an inclusive valuation of nature that closely connects nature, nature's benefits to people, and a good quality of life, among other aspects (Díaz et al., 2015; Pascual et al., 2017). In European Union (EU) strategic documents, the societal conception of well-being about environmental questions has a growing presence. The "Beyond GDP Initiative" of the European Commission looks at not only economic production but also environmental and societal aspects of development (United Nations, 2012; EC, 2013). In addition, one of the aims of the EU Rural Development Policy is to ensure well-being in rural areas. Nonetheless, this new pathway for development goals requires the identification of general indicators of well-being for policy based on broad research knowledge (EC, 2013).

European silvo-pastoral landscapes combine ecological and societal components in a way that results in rich ecological values and continuous interconnectedness with human society (Hartel and Plieninger, 2014). To date, most studies of these unique landscapes have been ecological and economic assessments (e.g., Campos and Mariscal, 2000; Díaz et al., 2001). Nevertheless, the multiple expectations society increasingly has for these landscapes (e.g., Hartel and Plieninger, 2014; Surová and Pinto-Correia, 2016) indicate the need for deeper knowledge about the entire system using integrative, social-ecological approaches (e.g., Olea and San-Miguel-Ayanz, 2006; Acácio and Holmgren, 2014; Huntsinger and Oviedo, 2014).

In the southwestern Iberian Peninsula, montado and dehesa are silvo-pastoral landscapes where livestock are grazed in oak woodlands (i.e., *Quercus suber*; *Quercus ilex*). In total, in Portugal and Spain they cover around 3.5–4.0 million ha (Olea and San-Miguel-Ayanz, 2006). This extensive land use is adapted to large-scale property ownership, and silvo-pastoral systems are found on large estates of over 100 ha, frequently more than 500 ha (Hartel and Plieninger, 2014).

The literature on functions and processes in montado and dehesa is long and involves a variety of disciplines (e.g., Aronson et al., 2009). Yet there is a lack of studies about how these landscapes relate to

contemporary society in holistic terms or how their contribution to humans could be improved in harmony with sustainable development.

These landscapes have been shown to be spatially and temporally dynamic (Acha and Newing, 2015), with abundant diversity in species (Díaz et al., 2001), as well as at the level of landscape patterns (Godinho et al., 2016). Along with ecological benefits, montado and dehesa offer diverse values to society (e.g., Gaspar et al., 2009; García-Llorente et al., 2012; Carmona et al., 2013; Plieninger et al., 2015; Surová and Pinto-Correia, 2016). Some preference studies reveal that multifunctional landscapes like montado are appreciated more than other regional landscapes for production and nonproduction uses (Surová and Pinto-Correia, 2008; Almeida et al., 2016). Similarly, García-Llorente et al. (2012) demonstrate society's appreciation of dehesa for aesthetic values, as well as for the combination of regulating and cultural ecosystem services.

Despite the identification of multiple services, values, and functions of these two systems, their future is uncertain. Marginal and less productive areas are undergoing an extensification in land use (Tárrega et al., 2009). Conversely, more central and productive areas have been changing toward more intensive agricultural production (García-Llorente et al., 2012) and grazing intensification (Plieninger et al., 2004), mainly as a response to global food trends (Nonhebel and Kastner, 2011). These changes are reflected in their decreasing distribution (Godinho et al., 2016; Arosa et al., 2017), spatial fragmentation (Godinho et al., 2016), homogenization (Arnaez et al., 2010), lack of tree regeneration (Plieninger et al., 2004; Arosa et al., 2017), vulnerability to ecological disturbances (Guimar et al., 2015), and increased risk of soil degradation (Arnaez et al., 2010; Guerra and Pinto-Correia, 2016). These trends are jeopardizing the multifunctionality and long-term sustainability of Iberian silvo-pastoral landscapes and compromising their capacity to sustain human well-being in the long term (García-Llorente et al., 2012; Nieto-Romero et al., 2014; Sánchez-Zamora et al., 2014).

The paper aims to enrich research perspectives and identify benefits and challenging aspects of silvo-pastoral landscapes in southwestern Iberia as perceived by stakeholders. Two social-ecological landscapes are examined, *montado* in Portugal and *dehesa* in Spain, applying interviews to stakeholders. Using qualitative analysis, we seek to understand the views of members of society more comprehensively. We went beyond the strict focus on ecosystem service categories developed within the MEA and allowed respondents to express themselves more freely about the aspects of montado and dehesa that from their point of view relate to well-being. Rather than identifying a list ecosystem services delivered by a landscape, the well-being approach applied in this paper aims to identify how the landscape potential is rendering to the well-being of the society. Through focusing on society well-being (Scott, 2012) and not applying some economic or psychological approaches to subjective well-being measurement, we try to jointly focus on collective and individual human needs and obtain more overall, holistic well-being perspective involving not only the economic but also cultural, social, and environmental aspects.

To make compound results more legible, they are divided into three dimensions of sustainable development: sociocultural, economic, and environmental. To better understand the context, the landscapes are assessed relative to other typical landscapes in the studied areas.

## Methods

The qualitative survey was applied in two case studies to obtain data about society's perception of montado in Portugal and dehesa in Spain. The characteristics of the methods used are presented in Table 1. The locations of the two case studies within the Iberian Peninsula are shown in Figure 1, where the spatial distribution of montado is based on the dataset published by Godinho et al. (2016), and the spatial allocation of dehesa is from a combination of the European Ecoregion, tree density, and the statistical map of forest species of Brus et al. (2012).

Key informants for the semistructured interviews were purposely chosen to represent different stakeholder groups and thus to get a

Download English Version:

<https://daneshyari.com/en/article/8849549>

Download Persian Version:

<https://daneshyari.com/article/8849549>

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