Land Use Policy 65 (2017) 164–175

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

The landscape of olive groves as a driver of the rural economy

Macario Rodríguez-Entrena [a,b,*], Sergio Colombo [c], Manuel Arriaza [a]

[a] Department of Agricultural Economics, IFAPA – Andalusian Institute of Agricultural Research and Training, Centro Alameda del Obispo, Apartado 3092, 14080 Córdoba, Spain
[b] Department of Agricultural Economics, University of Córdoba, Campus Rabanales, Ctra. N-IV km 396, 14014 Córdoba, Spain
[c] Department of Agricultural Economics, IFAPA - Andalusian Institute of Agricultural Research and Training, Centro Camino de Purchil, Apartado 18004 Granada, Spain

ARTICLE INFO

Article history:
Received 4 May 2016
Received in revised form 6 March 2017
Accepted 10 March 2017
Available online 25 April 2017

Keywords:
Aesthetic value
Choice experiments
First and second order effects
Recreation value
Multiplier effects
Payment for ecosystem services

ABSTRACT

This study evaluates how landscape changes made in order to improve the visual quality of olive groves may trigger first and second-order effects (FOEs and SOEs) on the rural economy. The choice experiment method is combined with the probability of visiting to estimate the marginal increase in recreational demand derived from the combination of three landscape elements: green cover, stone walls and woodland islets. The results suggest that the improvement of the aesthetic value of landscape (mainly through green covers and stone walls) creates a real, positive asset (due to its FOEs and SOEs) for the local economies in rural areas. The promotion of the recreational value of these areas to attract more visitors and so bring in more income could be a profitable policy, which could be implemented by hybridizing the current Agri-environmental scheme with a Payment for Ecosystem Services approach.

1. Introduction

Rural regions account for more than 50% of the European Union (EU) land area and agriculture uses more than 40% of all EU land (EUROSTAT, 2013). Accordingly, farmers' decisions involving farming management, crop selection, and farming practices have become a key issue in shaping EU landscapes (Lefebvre, Espinosa, & Gómez y Paloma, 2012; Villanueva et al., 2015c). When farmers take these decisions, as businesspeople their aim is to improve production of marketable commodities (OECD, 2001). However farming also produces other non-commodity outputs that cannot usually be priced and sold using traditional markets (Martins and Marques, 2006). Landscape, regarded as visual quality, can for example be considered a pure public good and an externality (positive or negative) of farming (Vanslembrouck and van Huylenbroeck, 2005), which affects human wellbeing and identity (Council of Europe, 2000), not only by means of the provision of environmental services, but also as an economic asset (Council of Europe, 2006) given the close inter-linkage with other different productive sectors (Zasada et al., 2017).

In these circumstances, the challenge for policy makers is to determine the appropriate provision of landscapes that maximize social welfare and contribute to an increase in economic growth at a local level (Rocamora-Montiel et al., 2014a; Zasada et al., 2017), avoiding the market failure that is usually associated with agricultural production of public goods (OECD, 2001). The Common Agricultural Policy (CAP) has addressed this issue to some extent through different instruments (Salazar-Ordóñez et al., 2013) aimed at protecting (e.g. Natura 2000) and provisioning (e.g. cross-compliance and agri-environmental Schemes AES) agricultural public goods (Villanueva et al., 2014), as farmers have to be encouraged to pursue certain farming practices (Rodríguez-Entrena and Arriaza, 2013) in order to maintain landscape features, restore specific habitats, or to manage natural resources such as water and soils. However, despite the fact that landscape preservation is included as an objective in the CAP, there are insufficient well-defined and targeted measures for this to be considered a comprehensive landscape policy. In the latest CAP reforms, preservation of the European agricultural and rural landscape was only established as a sub-priority in the second pillar, i.e. the Rural Development Policy (European Parliament, 2013), and the specific measures to be implemented have yet to be explained.

In this context, the economic valuation of the visual quality of agricultural landscapes may help inform policy actions to determine which concrete measures should be advocated. Most studies

* Corresponding author at: Department of Agricultural Economics, University of Córdoba, Campus Rabanales, Ctra. N-IV km 396, 14014 Córdoba, Spain.
E-mail address: mrentrena@uco.es (M. Rodríguez-Entrena).

http://dx.doi.org/10.1016/j.landusepol.2017.03.017
0264-8377/

on this topic have focused specifically on the first-order effects (FOEs) of improving the aesthetic value of agricultural landscape by assessing willingness to pay (WTP) for agricultural landscape changes (Hasund et al., 2011; Grammatikopoulou et al., 2012). FOEs are a measure of the direct value of the landscape as a public good for society (Cooper et al., 2009), a concept also used by the Directorate General for Agriculture and Rural Development of the European Commission (DG Agri, 2010). Nevertheless, there are also second-order effects (SOEs) arising from the management of agricultural landscapes in terms of linkages with others productive sectors and employment, particularly in rural areas (Cooper et al., 2009; ENRD, 2010; van Zanten et al., 2013). Some definitions of SOEs can be found in the literature (Cooper et al., 2009; ENRD, 2010) linking the concept with the appearance of indirect socio-economic benefits derived from the management of agricultural public goods. The assessment of such SOEs is therefore important for policy analysts seeking to evaluate land use alternatives, despite being a challenging task due to the difficulty of isolating the two effects for separate assessment. In particular, the evaluation of the SOEs of landscape management could demonstrate the importance of landscape as an economic asset which can offer significant opportunities for improving economic growth in rural areas, especially in terms of its preservation for the provision of environmental services such as aesthetic appeal.

First order effects, the increase in the demand for recreational activities brought by improvements to the landscape, can therefore have a multiplier effect – SOEs – triggering other economic activities in the same region (Richards and Hall, 2000; Daniel et al., 2012). In this paper we estimate the SOEs arising from an increase in landscape attractiveness due to changes in the management of green cover, stone walls and woodland islets in olive groves. The benefits of these recreational-oriented changes by farmers can be easily appreciated, especially near urban areas (Zasada, 2011). In addition, this type of tourism, dubbed by some authors as 'soft tourism', has a higher multiplier effect on the local economy (Slee et al., 1997; Saxena et al., 2007), especially in marginal areas with high quality local food products (Skuras et al., 2007).

From a methodological point of view, we used the Choice Experiment method (CE) to estimate the FOEs (i.e. the willingness to pay -WTP-) for three landscape elements and to gather information about the increase in recreational demand resulting from improved landscape attractiveness. This demand is then associated with a set of economic impacts on the local economy which can be considered SOEs of the increase in landscape attractiveness.

The rest of the paper is structured as follows. The next section presents the survey design and methodological approach used to assess the economic value of the agricultural landscape improvements. The results are detailed in section three, and the paper ends with a discussion that highlights the policy implications of promoting the landscape as a cornerstone of rural development.

2. Research design

2.1. Case study

Our case study focuses on the municipality of Montoro in the Province of Cordoba, southern Spain. This is a rural area where the landscape is characterized by a variety of agricultural ecosystems (pasture, olive groves and annual crops) and forest/shrub natural vegetation near the agricultural areas (see Fig. 1). Most agricultural production is based on traditional olive groves and pasture land for goats and sheep. The municipality of Montoro has its own olive oil Protected Designation of Origin (Montoro-Adamuz), traditional Christmas cakes ("Mazapanes de Montoro") and natural honey from the "Sierra de Cardeña y Montoro" natural park (Montoro Council, 2016). In the first stage of research we carried out a focus group with a very heterogeneous and diverse group of local stakeholders (representatives of the Chamber of Commerce, the Regional Ministry of Agriculture, the Montoro-Cardeña natural park, Green organizations, Rural Development Agency, farmers' organization and agroindustry) to determine possible landscape improvements that might boost the local economy. Participants suggested that the diversification of the olive grove landscape could have a regional impact on the rural economy by increasing rural tourism. Amongst various landscape restoration projects, the local stakeholders suggested preparing two pathways (7 and 3 km in length) through the olive groves and nearby vegetation as recreational spaces for visitors in the natural park of Montoro (see Fig. 2). To this end, they analyzed which landscape elements could be changed in the olive groves to improve the aesthetic quality of the landscape and thus contribute to the local economy by attracting new visitors. Three landscape elements were chosen: the maintenance and restoration of stone walls, the presence of woodland islets in the olive groves

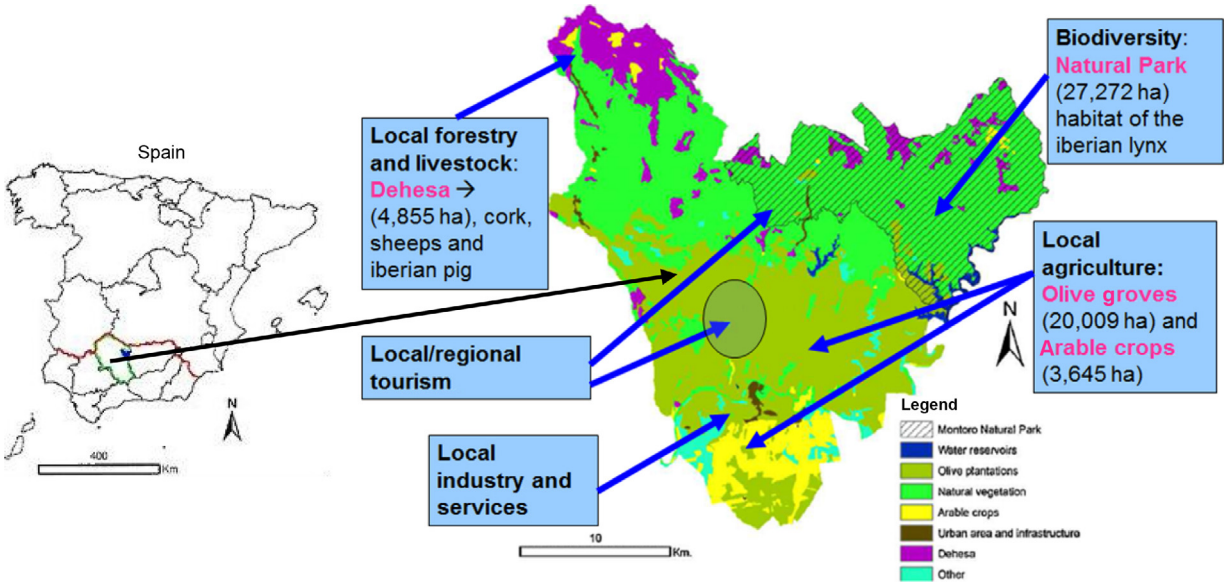

Fig. 1. Location of the olive grove landscape restoration project.