

## Determining the Socio-economic Value of Agricultural Landscapes

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**Abstract.** Landscape is an asset that can offer significant opportunities for the territorial and economic development of rural areas, but the relationships between agriculture, landscape value and socio-economic prosperity are unclear and are regionally differentiated. In order to understand the links between the valorisation and maintenance of landscapes and socio-economic development, and to assess the extent to which landscape can be a driver for competitiveness, a better understanding of the relationships between (a) agriculture and landscape management on the one hand ('supply side') and (b) landscape management and perception and appreciation of these landscapes by 'consumers' on the other ('demand side') is required. This paper reviews some of the evidence in the context of the findings of the European Union (EU) Framework 7 project RuralJobs and argues that, to facilitate the contribution of landscapes to the socio-economic (including non-agricultural) development of regions, we also need (a) a systematic description of the way this relationship varies in different landscapes and parts of the European Union; (b) as part of this, to better understand what factors influence the perceptions of local actors of the value of agrarian landscapes; (c) to identify and elaborate possible place-specific policies and mechanisms for the utilisation of the valorisation potential of landscapes in practice; and (d) an analysis of necessary conditions/mechanisms such as institutional frameworks.

**Keywords:** agricultural landscapes, rural socio-economic development, European Union

### INTRODUCTION

In rural areas there is the potential for socio-economic development based on the sustainable exploitation of natural capital (which can be defined as 'a stock of natural resources - such as land, water, and minerals - used for production'). This development can be based on their 'production' (such as arable and livestock farming, and mining) or 'consumption' roles (Fieldsend and Kerekes, 2011). The concept of the 'consumption countryside' is now well established (Lowe and Ward, 2009; Marsden, 1998; Marsden, 1999; Shucksmith *et al.*, 2006; van der Ploeg *et al.* 2008). It is associated with new forms of commodification of the countryside for (mainly) urban consumption such as short food-supply chains, organic agriculture and ecological awareness which in turn has fostered new forms of rural tourism such as ecotourism.

Landscapes occupy a central role in this relationship between natural capital (of which they are part, see Potschin and Haines-Young, 2006) and rural socio-economic development. Landscape is more than just 'the view'. It is about the complex, interacting natural and cultural systems that make up each landscape and it is also about the relationship between people, place and nature. Thus the definition of landscape used by the European Landscape Convention, namely 'an area, as perceived by people, whose character is the result of the action and inter-action of natural and/or human factors' (Council of Europe, 2000), is widely accepted amongst academics and policy makers. This definition addresses the two main dimensions that are commonly referred to amongst researchers, namely (a) landscape as an area, a physical entity resulting from natural processes as well as human activity, which are

imbued with cultural practices and (b) landscape as a social, cultural and political representation. Both of these approaches imply that landscape is dynamic and multilayered in spatial and temporal terms.

The visible features of cultivated rural landscapes are strongly influenced by the ‘production’ activities in rural areas. In turn, these features can determine the ‘consumption value’ of a territory. Land management, in particular by agriculture, can be perceived by societal actors as having either ‘improved’ or ‘damaged’ the landscape. Clearly, when the landscape is seen as ‘attractive’, the potential for maximising the value of the ‘consumption’ roles of rural areas is much greater. Many of these aspects of consumption have been internalised into the concepts of ‘multifunctional agriculture’ (van Huylenbroeck *et al.*, 2007; Renting *et al.*, 2009) and ‘public goods’ (Cooper *et al.*, 2009).

Although financial remuneration for ‘pure’ (i.e. ‘non excludable’ and ‘non rival’) public goods is difficult or impossible to achieve, the consumption dynamic has given rural areas many opportunities to add value to their economic activities alongside the traditional and still important activity of agricultural production. Agriculture is arguably the single most dominant influence on the landscape and it is clear that agriculture can provide ‘landscape services’ (van Huylenbroek *et al.*, 2007) that can stimulate economic activity, thereby contributing to the vitality of these areas and improving the quality of life of those who live there, as well as of society more broadly. However, the ways in which these benefits can be captured are not well understood. This paper, in the context of the findings of the European Union (EU) Framework 7 project RuralJobs ([www.ruraljobs.org](http://www.ruraljobs.org)), reviews some of the evidence and identifies topics on which further research and policy development are needed.

## THE RELATIONSHIP BETWEEN LANDSCAPES AND SOCIO-ECONOMIC DEVELOPMENT

The potential of landscapes is a function of both ‘supply side’ (the form of the landscape) and ‘demand side’ (the perception of its value by residents and visitors) factors. The contribution of landscape to the economic, social and cultural development of an area can be regarded as a specific element of ecosystem services: hence the term ‘landscape services’ used here. Elements of a conceptual framework are illustrated in Fig. 1.

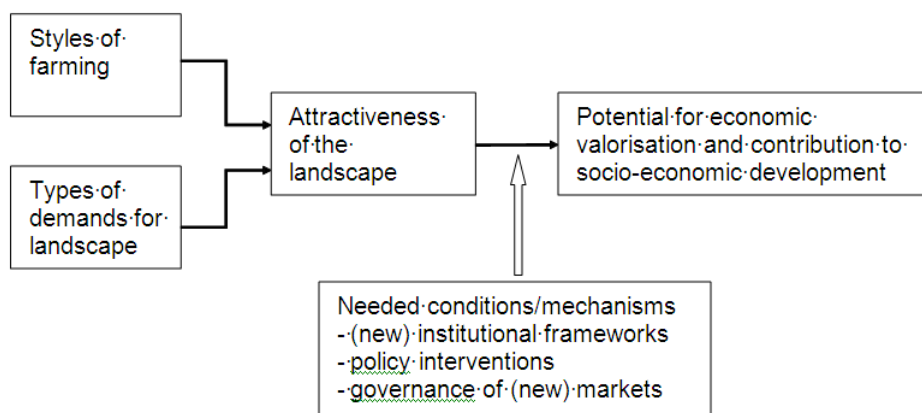


Fig. 1. Elements of a conceptual framework of the relationships between agricultural landscapes and the economy of rural areas

When viewed at a regional level, the routes through which attractive agricultural landscapes, the presence of farmland biodiversity and historical features provide economic opportunities present a complex picture. The economic profile of the territory will chiefly determine in what ways and through which sectors the impact on economic prosperity is greatest, and to a large extent where problems and conflicts can arise.

### ***The supply side – managing landscapes to support economic development***

Landscape services can take a variety of forms, including productive (in a physical sense), ecological, cultural, social, aesthetic, and heritage-related. ‘Attractiveness’ of landscape is strongly influenced by ‘supply side’ issues such type and mix of land use (e.g. pastoral, arable or forestry), and topography (hill vs. lowland). By enhancing landscape, as well as underpinning important social and cultural traditions, agriculture can make rural areas more attractive as places to live (ENRD, 2010). Ventura *et al.* (2007) show that in Italy different styles of farming result in different types of rural areas that are appreciated and valued differently by citizens and rural dwellers; there is a clear positive relationship between multifunctional agriculture, the quality of the area and the rural economy.

Landscapes contribute to regional identity and an opportunity for landscape research is ‘to complement place- and terroir-based versions of landscape with new concepts of regionalism that can enrich understanding with perspectives based on movements and flows’ (COST, 2010). This can apply to ordinary landscapes no less than to outstanding ones, since all decisively influence the quality of Europeans' surroundings. Clearly the maintenance of productive capacity is a prerequisite for the provision of public goods through agriculture. Two broad trends which can potentially contribute to a loss of landscapes are marginalisation and abandonment, and intensification/concentration of production (Stoate *et al.*, 2009).

Clarifying our understanding of how value capture from landscapes operates through the socio-economic structure of a territory will allow the development and construction of mechanisms which optimise the ecological and socio-economic functions of agrarian landscapes and thus which maximise this value capture (such as environmental coops, quality food products based on distinctive landscape features, experiences with agri-environment schemes, region branding initiatives etc.). The subject of this work is evolving rapidly and in quite different directions across the EU depending on the nature of local knowledge (lay/tacit/codified/scientific etc.) and innovation systems (van der Ploeg *et al.*, 2008).

Farming can benefit directly from the landscape services it provides. For example, the provision of environmental public goods, such as the maintenance of farmland features, terraces and stone walls, provide economic and employment benefits for the farmer or for local contractors, as well as encouraging the retention of traditional skills (Mills *et al.* 2010). Such benefits are frequently funded through the Agri-Environmental Schemes (AES) of Axis 2, Pillar 2 of the Common Agricultural Policy (CAP). Purvis *et al.*, (2009) showed that in the EU-25, out of 244 AES, 121 included provisions for the protection of the landscape.

### ***The demand side – the contribution of landscapes to socio-economic development***

Natural capital (including attractive landscapes) is an important factor in EU-15 countries in encouraging people to remain in, or relocate to, rural areas (Florida *et al.* 2010). For example, Bosworth (2010) described the process of ‘commercial counter-urbanisation’ in the north east of England where people choose to stay in, or move to, a rural area and engage in economic activity (such as through entrepreneurship), especially but not only in the service

sector. It may be a two-stage process, with a decision to start a business sometimes occurring some years after a residential move. Up to two thirds of new rural firms are created by people moving from urban to rural areas and for each self-employed in-migrant an average of 1.9 additional jobs were created. This process, which may also be termed ‘Rural Renaissance’, is fundamentally different from counter-urbanisation in that the rural area is the place of both residence and economic activity.

The RuralJobs case study area research demonstrated that there is a strong local desire in the New Member States (NMS) to retain or to attract people to live in rural areas and to set up businesses. For example, to ‘stimulate the settlement of young and middle-aged population in rural areas’ is a strategic orientation from Bistrița-Năsăud county in Romania. Apart perhaps from Pazardjik ‘agglomeration area’ (AA) in Bulgaria, where it was observed that ‘significant opportunities are connected with the development of the peri-urban zones located on the foot and slopes of mountains that may attract more people to prefer living there instead of the urban centres’, the consumption of natural capital by residents is, however, not yet seen by local actors as a driver of in-migration. Indeed, even in Pazardjik AA local stakeholders ‘still perceive [rural] development in terms of the traditional sectors’ (i.e. agriculture etc.).

Thus, whilst it is clear that the ‘consumption dynamic’ is becoming an increasingly important aspect of rural and regional socio-economic development, the nature of this process differs between regions, as already noted in the UK by Marsden (1998). Social issues appear to be an important component of valorisation of rural amenities such as landscapes. RuralJobs reported markedly different attitudes towards the ‘consumption countryside’ across the EU, varying from ‘Pleasant living environment’ in Essex, UK and ‘Pleasant surroundings’ in région Limousin, France to an ‘unfavourable village image’ in the North Great Plain region of Hungary and ‘Romanians do not like going to the countryside’ in Bistrița-Năsăud county (Fieldsend, 2010a).

It is not yet clear, however, why this should be, and there could be a number of reasons. In particular, the relative importance of, on the one hand, social attitudes or perceptions towards village life and, on the other, quality of life considerations in discouraging in-migration into villages in the NMS (such as into the villages in Hungary which are accessible to Debrecen) is not known. Shucksmith *et al.* (2006) show that while in the richest Member States of the EU there is little evidence of significant urban-rural differences in quality of life, in the poorer Member States of the east and south rural areas have a much lower level of perceived welfare and quality of life (housing; education and internet use; access to work and services etc.), particularly in the (then) candidate countries including Romania and Bulgaria.

The European Landscape Convention recognises the concept of landscape as a major force for social and environmental change or continuity, and its definition of landscape as people’s perception encourages participatory and socially-focused action (COST, 2010). But, for the oft-mentioned ‘new values placed on rural space’ to be fully mobilised in the NMS for the benefit of socio-economic development, substantial improvements in the rural quality of life are necessary. Fieldsend (2011) concludes that the sustainable exploitation of natural capital must be part of a place-based (i.e. territorial policy) approach to rural development.

## RESEARCH AND POLICY DEVELOPMENT PRIORITIES

It is necessary not just to be able to understand the numerous factors which influence the links between landscapes and socio-economic development. It is also important to (a) construct effective and efficient policy mechanisms at different levels to valorise landscapes,

(b) better understand how landscapes are valorised and enjoyed by urban and rural communities alike, and (c) select the most appropriate methods for measuring both the direct and the second order socio-economic effects arising from the provision of landscape by agriculture. In doing so, it is necessary to take into account the diversity caused by the differing combinations of drivers present in different regions of the EU.

### ***Valorisation of rural landscapes - a policy to be redefined***

COST (2010) notes that '[a] great many EU policies [in which landscape is implicit] have strong spatial components, notably in the spheres of agricultural policies, infrastructure creation, Environmental Assessment and Habitat Directives, social cohesion programming, and regional and spatial planning'. The greater awareness in the EU of the environmental and social importance of agriculture has shifted the focus of the CAP from the supply of agricultural commodities to the broader role of supporting the provision of a wide range of environmental and social public goods (Cooper *et al.*, 2009). Thus for example measures in many existing rural development programmes (RDP) aim to reverse the processes of marginalisation and abandonment (ENRD, 2010). For these more complex objectives to be achieved, a clear understanding of politically controversial and technically complex aspects of the valorisation of agricultural landscapes as public goods is needed.

In other words, a landscape approach to land management must be part of the design and development of new agricultural, rural and regional development policies which must address both the 'supply side' and 'demand side' aspects by optimising both the ecological and socio-economic functions of agrarian landscapes, and which must therefore include interventions at scales larger than a single farm. Mechanisms may demand a greater focus in policy instruments on desired outcomes rather than on prescribing inputs.

While it is evident that in order to achieve a socially optimal level of public goods (landscapes) from agriculture, consistent with societal demand, there will be a continuing need for public intervention, this need will have to be judged alongside the potential and opportunities which landscapes can provide as a driver for the competitiveness of the agricultural sector and for the creation of rural jobs and income. There is real potential to 'internalise' within the farming and regional economies the 'externality' of agricultural landscapes through economic activities such as rural and agri-tourism and recreation, organic farming, and the production of high quality and region-specific products and foods (ENRD, 2010). Farm households (through diversification and pluriactivity) may or may not be the direct beneficiaries. There can also be socio-economic second order effects (positive net migration balance, increases in services etc., ENRD, 2010) due to synergies between different economic activities valorising landscape qualities (regional clustering effects), but also potential negative effects due to economic substitution effects (Knickel and Renting, 2000).

The broad range of promising mechanisms for capturing the value of landscapes which is emerging around the EU countryside should be reviewed in this context. It is necessary to clarify what mechanisms specifically relating to landscapes are likely to work in what socio-economic circumstances, in the light of trends such as mobility, demographic and lifestyle changes, and increased internet uptake, and why. Future policy approaches will need to be redefined and appropriate institutional arrangements and governance structures for the activation of these different landscape valorisation mechanisms will need to be constructed. The European Landscape Convention believes that if stakeholders have an active role in decision making on landscape, they are more likely to identify with the areas where they spend their working and leisure time. If they have more influence on their surroundings, they

can reinforce local and regional identity which in turn may help to promote the sustainable development of the area concerned.

The necessary evidence base can come from case study research which can firstly describe the links between the valorisation and maintenance of agrarian landscapes and the socio-economic development of rural areas, and secondly explain how and through what mechanisms agricultural landscapes can be a driver for agricultural competitiveness and for the creation of jobs and income in rural areas. It is necessary to quantify both existing relationships and the potential for increasing the socio-economic benefits derived from landscapes. This work can build on the various EU project typologies which have attempted to capture the newly emerging rural diversity, such as the EU Framework 7 project 'ETUDE', and on ongoing work in this area such as the 'SUSTAG' action of JRC.

### *A better understanding of how the value of landscapes is perceived*

Terluin and Post (1999) strongly stressed the importance to rural economic prosperity of recognising the value of local amenities, amongst which they list unspoiled nature, attractive landscapes and historic villages. In their research, they noted that almost all of their case study regions had some sort of valuable rural amenities, but that it is not primarily the existence of amenities that matters, but the degree to which these amenities are effectively valorised in an economic process that contributes to generating added value. Even now, a better understanding of the 'demand side' is crucial for assessing the socio-economic value of landscapes, and for developing mechanisms to link the demand with the supply.

Fieldsend and Kerekes (2011) have shown that the two components of the 'consumption' role of rural areas are consumption by non-residents of the territory including visitors, and consumption by residents. Although all RuralJobs case study area reports identify the potential, on the basis of the former, for job creation in rural tourism, some expressed concern that this potential was not necessarily recognised by local actors. In Thames Gateway South Essex, a predominantly urban region in the UK, the lack of tourism strategies from some rural local authorities was disappointing. In Pazardjik AA local authorities are sometimes too inert in dealing with the natural resource matter; tourism as a driver for development appears only in the Strategy Plan of Bratsigovo municipality. Several NMS case study area reports record lack of demand by residents for local products and identify foreign visitors or the export of goods with value-added (such as geographical appellations and animal welfare) to outside the territory as potential markets.

Valorisation of local amenities in rural areas is associated with conflicting attitudes towards change and a major (sometimes bitter) debate on the role of the countryside in which a 'living' countryside and a 'working' countryside are portrayed as mutually exclusive alternatives. There is a potential conflict between the demands of modern farming methods and the expectation by society that agriculture will maintain cherished patterns of land use and distinctive landscape features (e.g. ARC, 2010). Whilst mostly evident in 'accessible' EU-15 regions such as Essex (which may be under pressure from urbanisation), in Karcag 'local labour system' (LLS) in Hungary, residents opposed the setting up of an organic abattoir as it may discourage tourism. In order to maintain vibrant rural communities, a balance between the 'living' and 'working' roles of rural areas must be achieved where employment is provided without damaging natural capital and the perception of 'rurality'. COST (2010) notes that 'the inheritance of landscape can become limiting if fixed ideas such as 'tradition' or 'timelessness' become dominant'. Where workplace accommodation already

exists, RuralJobs research has shown that it is often viewed by the local community as an asset.

Thus, as well as rationalising our understanding of how agriculture provides landscape services, it is necessary to clarify how landscape perceptions and meanings are formed at individual and community levels and on local, regional, national and supra-national scales. The evidence base should include the results of some very significant recent studies, including the outcomes of a series of transdisciplinary meetings of different networks in landscape research summarised by COST (2010). Also relevant is the DG Internal Policies funded study ‘What tools for the European agricultural policy to encourage the provision of public goods?’, the results of which are expected to be available in mid-2011 (European Parliament, 2010), and the UK Foresight report ‘Land Use Futures: Making the most of land in the 21st century’ (Go-Science, 2010) which sets out what might be gained from an ecosystem services approach to land use and describes important drivers of change in agricultural land.

### *Measuring success*

The current EU Policy Framework places special emphasis on the provision of public goods from agriculture, including the supply of landscape services. Being able to put values on such services provided by farming is fundamental to designing policies to induce land managers to provide (or maintain) these services. Such an analysis can be of value both in improving the targeting of EU strategies and programmes, and in their mid-term and ex-post evaluations. However, the ways in which the necessary methodologies for measuring the socio-economic second order effects that arise can and should be used are not well understood.

COST (2010) notes the need for ‘new methods of characterisation, strategic assessment, sensitivity analysis, social cost-benefit evaluation and public value surveys as promising ways of integrating [landscape] research with democratic decision making’. Crucially, the objectives to be measured need to be sufficiently precisely defined so that the process of monitoring and evaluation allows the correct judgements to be made about whether interventions are contributing to the outcomes being pursued. Despite a dramatic increase in the number of studies aiming to value ecosystem services, there appears to be ‘growing confusion amongst decision-makers, ecologists and non-economists about the validity and implications of ecosystem valuation’ (Pagiola *et al.*, cited by Turner *et al.* 2010).

Over the past forty years, the rapid evolution of non-market valuation methods in environmental economics has contributed an important set of new tools to estimate the value to society of ecosystem services that lack markets. Swinton *et al.* (2007) group these methods under the categories of travel cost, contingent valuation and stated preference approaches, hedonics, approaches based on cost, factor-income approaches, and consumers. The Millennium Ecosystem Assessment (MEA, 2005) also reviews valuation approaches.

Many studies have attempted to quantify the economic impacts of AES payments to farmers through their ‘multiplier effect’, in terms of the number of times that an investment is spent and re-spent within a particular economy, before eventually leaving that economy (ENRD, 2010). A commonly used model is LM3, which measures the income and employment impacts of the first three rounds of spending in the local economy, and estimates the magnitude of subsequent rounds. An alternative is the more complex input-output model. Courtney *et al.* (2008) note that the variation in methodologies used makes it difficult to compare results between studies.

By contrast, few attempts have been made to quantify the wider economic or employment impacts of environmental land management (and attractive agricultural

landscapes) on the local economy (ENRD, 2010). A rare example, reported in Winter and Rushbrook, (2003), estimated that 3.7 million (79%) of all annual holiday trips to Devon, UK were motivated by the 'conserved landscape', defined as fields, wood, moorland, villages and coastline. These trips were estimated to generate a visitor spend of GBP 749 million, and support a total of 23,900 full time equivalent jobs, of which 16,000 are supported directly by landscape motivated holiday trips.

An assessment of the availability of indicators should form part of this work. Quantification of the impacts specific policy interventions such as rural development measures and the individual actions that are supported under them requires indicators that are both measurable and tied to the provision of landscape services. ENRD (2010) notes that, with regard to ecosystem services in general, the Common Monitoring and Evaluation Framework (CMEF) indicators are 'a good start' although RuralJobs noted that 'common bird index' is one of surprisingly few indicators that are available for quantifying diversity and therefore the (natural) attractiveness of an area (Fieldsend, 2010b). Furthermore, data availability at local level varies widely across Member States, being generally good in France and the UK and weak in Romania. For example, data for 'common bird index' are not available in Romania. There is also a need for indicators directly related to human perception of landscape value.

## CONCLUSIONS

The development of the 'consumption dynamic', linked with a growing public awareness and valorisation of 'public goods', plus the comprehensive analysis of the role of landscapes prepared by COST (2010) has brought us to the point where a real opportunity exists to integrate landscape management into rural socio-economic development.

Landscape must be perceived as a 'living landscape' including all activities of farmers, other rural residents, tourists and references to cultural history etc. Many aspirations key to the political agenda, including neighbourliness, quality of life, cultural, economic and environmental sustainability and heritage grow from the universality of landscape as a human value and a social good as well as from its environmental context (COST, 2010).

Presently our understanding of this topic remains underdeveloped in two respects: (a) the numerous possible mechanisms other than 'compensation of income losses' by means of public funding have to be fully scoped. For example in the Netherlands there seems to be a link between the value of property (and thus the level of property tax) and the quality of the environment; and (b) the potential for success of any particular type of mechanism depends on local circumstances, not just with regard to 'supply side' and 'demand side' issues but also including factors such as the appropriateness of local institutional arrangements and governance structures for the activation of these different valorisation mechanisms.

This lack of understanding is in part due to the complexity of the concept of 'landscape' which, as we have noted, has a socio-cultural (providing a concept of 'place' linked to community) as well as a natural dimension. The specific contribution of agriculture to rural landscapes and the socio-economic role of landscapes are insufficiently identified, described and articulated. It is not sufficient to simply measure 'landscape value' (at least in mono-disciplinary ecological and technical terms, i.e. the 'supply-side'), how this value is perceived by the 'consumers' of landscapes, i.e. the 'demand-side', is equally important. Inadequate valorisation by societal actors of natural capital (including landscapes) in support of socio-economic development persists (as noted by the RuralJobs research), indicates a lack of understanding by societal actors as well as by the academic community.



The progressive enlargement of the EU, to include the Member States from southern Europe (Spain, Portugal and Greece), from northern and central Europe (Austria, Finland and Sweden), from eastern central Europe (in 2004) and most recently from south eastern Europe (Romania and Bulgaria) has resulted in the proliferation of regional types within the EU. Fieldsend and Kerekes (2011) noted that the extent to which landscapes are valorised by communities varies across the EU. Similarly, COST (2010) notes that ‘the importance of regional diversity (and of European landscape in its global context) is often under appreciated’, and that in landscape research ‘pan-European perspectives are under-developed’.

Whilst an EU-wide strategy is needed for promoting the valorisation of landscapes in support of rural and regional socio-economic development, a ‘one size fits all’ solution does not exist. In every locality a unique combination of drivers will determine the relationship between landscapes and socio-economic development and prosperity, and thus significantly modify the impacts of such a strategy. In addition to the differences in farming landscapes, the relative importance of the production and consumption dynamics, the degree of awareness amongst local actors of the socio-economic value of landscapes, and differences between rural and urban areas in quality of life, are important factors which must be addressed by research.

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