

DESIGNING INSTRUMENTS FOR RURAL LANDSCAPE MANAGEMENT: PLANNING TOOLS, ECONOMIC INCENTIVES AND NON GOVERNMENTAL APPROACHES

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ABSTRACT

To preserve rural landscape it is possible to use several instruments.

The study of instruments for rural landscape management has become a factor of great importance in giving decision makers a true picture of consequences derived from their use.

The aim of this study is to point out the characteristics of the instruments able to guarantee a sustainable use of rural landscape.

To this purpose we will describe the relation between agricultural activity and rural landscape quality and will point out the opportunities of Payments for Environmental Services (PES) use.

In order to study the consequences of the instrument's use we will analyse rural development documents of North-Eastern Italian Regions.

Key words: rural landscape / institutional measures / private approaches

INTRODUCTION

The preservation of rural landscape is very important in developing rural areas.

There is a rich set of potential instruments that can be used to implement the rural landscape policies. Their use differs from one country to another. Nevertheless, they could be summarized into two categories: i) planning tools; ii) economic/financial incentives.

The first group is able to reduce the rural landscape damages due to voluntary transformations, but is inoperative to counteract the abandon of an economic activity (i.e. abandon of agriculture and pasture) and its negative impacts on rural landscape.

Only the financial incentives, that are mainly distributed by the government, seem not to fail in obtaining the improvement of rural landscape quality.

In this context the study aims to illustrate firstly the relation between primary activity and landscape quality. The multifunctionality of agriculture underlines the ability of this activity to produce not only food and fibres, but also a number of other goods (bads). Agricultural land management generates rural landscape assets that have the characteristic of public goods.

A second analysis regards the characteristics of the instruments used by Common Agricultural Policy (CAP) and their efficiency and efficacy.

In this field, we tried to point out the presence and the role of the Payments for Ecological Services (PES) schemes contained into the regional Rural Development Programmes (notably agri-environmental schemes).

As PES could be defined as a voluntary transaction between a buyer and a provider in order to exchange a secured environmental service, we tried to identify not only government-financed PES at local level, but also user-financed PES.

We also pointed out that, in some cases, the features of the landscape ask for the development of a Non Governmental Approach (NGA) (i.e. agritourism), that aims to internalise the value of

rural landscape. The result of this process of internalization could be an increase of farmers income.

In order to analyse the implementation of PES, we tried to identify their role into the documents devoted to rural development prepared by North-Eastern Italian Regions for the period 2000-2006 and by the Autonomous Friuli Venezia Giulia Region for the period 2007-2013.

In this context, we analysed also the potential effects of NGAs.

MULTIFUNCTIONAL ROLE OF AGRICULTURE AND RURAL LANDSCAPE MANAGEMENT

The multifunctionality of agriculture underlines the ability of this economic activity to provide not only market goods, such as food and fibres, but also a set of other non-market goods (or “bads”) as joint products with market goods.

A multifunctional agriculture means that the agricultural production is a multioutput process, where multiple commodity and non-commodity outputs (NCOs) are jointly produced (OCSE, 2001).

Some outputs are privately traded, but some of the NCOs are externalities or public goods. The result is that the markets for these goods do not exist, or, if they exist, function poorly.

Agricultural production may result in negative external effects (i.e. nutrient runoff, erosion, pollution from pesticide and herbicide use, etc.), but also in positive effects. For example, agricultural land management could generate positive environmental impacts, maintain rural landscape amenities, conserve rural cultural heritage, but also increase rural employment and support rural development. Moreover, it can shape the landscape and provide environmental benefits such as sustainable management of renewable natural resources, land conservation and preservation of biodiversity.

When we refer to multifunctionality, generally, we assume a prevalent positive impact of primary sector, mainly due to the production of a lot of NCOs (OCSE, 2001), that have the characteristic of public goods.

Among NCOs, we could identify also the maintenance and valuing of rural landscape. In fact, agriculture, through land use, is able to determine visual and aesthetic features of a rural area.

Positive externalities landscape production has NCOs characteristics: it generates a market failure, which implies government intervention to obtain optimal level of provision. In detail, without institutional intervention there will be none or scarce private provision of positive externalities.

Although multifunctional role of agriculture is well known around the world, the best instrument to support positive externalities production has still not been identified. This is mainly due to the fact that it is not always possible to point out the level of jointness between primary output and NCOs. Moreover, transaction costs could play a significant role in choosing an instrument (Abler, 2004). Last but not least, the benefits derived from NCOs use are difficult to define and measure, although their social importance has been well known, consequently it is very difficult to identify optimal provision level (Marangon and Tempesta, 2008). As regard this last evidence, though many of these benefits are difficult to define and measure, we underline that non-market valuation studies have found substantial non-market values for NCOs provision by primary sector (Tempesta e Thiene, 2006).

To avoid distortions and inefficiencies it is necessary to identify the right instrument (OCSE, 2005a), that has to be also able to satisfy TTT criterion (Tinbergen, 1952): in fact, it should be Targeted, Tractable and Transparent.

Nevertheless, even if some NCOs are positive externalities that cause market failures, it seems to be necessary to underline that institutional intervention is not necessarily the best option, as there could be various ways to narrow the gap between social and private costs (OCSE, 2005b). In fact, the choice depends on the specific public good characteristics of these NCOs. Moreover, many options would require none or very limited government intervention such as to facilitate market creation.

GOVERNMENT INTERVENTION TO SUPPORT RURAL LANDSCAPE MANAGEMENT

A lot of landscape policies have been adopted by decision makers of several countries over the last few decades, in order to manage rural landscapes. In particular, for a long time, landscape conservation and protection aspects have dominated the discussion about rural landscape development.

Also in Italy, as in many other countries, institutional rules in favour of landscape conservation were implemented.

Public intervention seems to be necessary because the landscape is an economic resource. The need for public intervention in this field derives from the economic characteristics of the landscape. It satisfies a human need or want, but the economic theory has not formulated a definition to describe “landscape” and the economists tend to approach landscape only occasionally.

The rural landscape asset generated through agricultural land management is an externality (it could be positive or negative) of farming and other economic activities that exploit and modify the territory and functions as a pure public good. Rural landscape can be considered a cultural good, as, in particular in Italy, is able to preserve important features of past farming practices. From this point of view it can be considered also as a merit good.

As it is a (pure) public good and an externality, landscape can neither have a price nor be produced by private citizens. In fact, for this kind of good, the spontaneous activities of economic agents lead to an inefficient land use arrangement. It calls for government intervention to correct market failure.

To implement rural landscape policies we can use several instruments, nevertheless they could be grouped into two categories: command and control instruments (CACs) and economic/financial incentives (EFIs).

The first group, as the name implies, consists of a command that sets a standard to stipulate limits (as regards landscape, mainly building applications). The control monitors and enforces the standard.

CACs are based on the definition of standards to be respected in territorial transformation (especially as regard building activities). In general, standards can state: a) an absolute prohibition (in particular in favour of actions that could produce extremely significant transformations of the landscape); b) a threshold of maximum landscape impact. In both cases the constraint causes some social or private costs. To implement a building project which modified the landscape the private or public actors have to request a building permission. The planners could prohibit the fulfilment of a project which fails to comply with the imposed conditions or standards, but they could also impose specific conditions or standards on the activity to comply with landscape plans or binds.

In order to respect the landscape regulations, the citizen or businessman who wants to start up an activity that could modify the landscape will have to bear higher costs or renounce to some

possible returns. Consequently, it is necessary to clearly define the characteristics and value of the benefits of landscape policies: the social benefits will in any case overcome the private costs. It seems to be necessary to underline that the CAC approach allows only to reduce the landscape damages, but is not able in dealing with the impacts of land abandonment, in particular as regards primary activity. In fact, in general, CACs are ineffective in opposing passive transformations due to the abandoned of an economic activity that could instead contribute to the landscape maintenance. Moreover, CACs can not support landscape quality improvement: the CAC approach fails in dealing with the rural landscape requalification projects. In these cases only monetary incentives can pursue rural landscape quality objectives.

This problem is not endless if measures are taken to develop models for sustainable rural activity and in favour of sustainable use of landscape. In particular, the EFIs seem to be a suitable equipment to preserve rural landscape quality. These economic instruments have been adopted to maintain and preserve the features of the rural landscape, but also to improve its quality through specific interventions, especially in the last few years.

EFIs try to ensure delivery of public goods provided by agricultural land management. The government can choose among several economic incentives to compensate agricultural farmers that guarantee the decrease of negative landscape externalities or the increase of positive social benefits (Pretty, 2003).

The multifunctional role of agriculture points out the importance of the benefits that can come from agriculture. These benefits typically include also contributions to landscape values. The significance of this multifunctional character constitutes an important issue for decision makers.

Many governments recognize the importance of agricultural land management to the beauty of rural landscapes and provide for financial support of it.

As regard European Union (EU) intervention, we can affirm that such measures form part of Rural Development Programmes (RDPs) (i.e. agri-environmental measures) (Marangon, 2006). These economic instruments commit farmers, for a five-year minimum period, to adopt environmentally-friendly farming techniques that go beyond usual good farming practice. In return, they receive payments that compensate them for additional costs and loss of income that arise as a result of commitment.

These incentives are not coupled to agricultural output or input: this characteristic contributes to avoid distortions, in particular as regard international trade market agreements, although there was only limited evidence about this consideration (OCSE, 2003). Nevertheless, this instrument has still only a little institutional financial budget (Pretty, 2003).

To manage rural landscape the economic incentives have been adopted by EU since 1985 (Reg. CEE n. 797/1985). With Regg. CEE n. 2078 and 2080/1992, about agri-environmental and forestry measures, the importance of economic incentives in favour of rural landscape management has been increased. After Agenda 2000 document presentation, the Reg. CE n. 1257/1999 proposed a higher financial support the multifunctional role of farmers aimed to maintain rural landscape. In detail, agri-environmental measures have been developed inside RDPs. In Italy these documents were prepared at regional level. Also Mid Term Review through Reg. CE n. 1783/2003 and Health Check of CAP underlined the importance of sustainable rural landscape with some financial incentives devoted to support the role of land managers.

In spite of the great importance of supporting rural landscape protection and enhancing underlined by the European Commission, there is still little evidence about assessment of their impacts (European Commission, 2005). In fact, while some measures are easy to monitor and evaluate, as they are linked to linear or point landscape features, some others are more complex to assess.

ECONOMIC INCENTIVES IN FAVOUR OF RURAL LANDSCAPE MANAGEMENT IN ITALIAN RURAL DEVELOPMENT PLANS

To try to point out the efficiency and effectiveness of institutional EFIs on rural landscape, we analysed the content of Italian RDPs prepared for the period 2000-2006. We conducted also a preliminary analyse of the same documents prepared by Regions, in particular by Autonomous Friuli Venezia Giulia Region, for current financial period 2007-2013.

These documents, in fact, contain a set of financial incentives to support the sustainable management of primary sector.

As regard these documents for 2000-2006 financial period, we studied, in particular, the measures with a landscape impact. A specific analyses was devoted to agri-environmental interventions (F Measure), but also to woodland for cover and forestry measures (H and I Measures), with potential impacts on rural landscape.

It is worthwhile mentioning that a lot of actions, also not directly connected to agriculture tout court, could have an impact on landscape and environmental features.

Although there were a lot of diversities among Regions in implementing such measures, we noted that in almost all Regions some steps were conducted to adapt interventions to specific local agricultural characteristics. Nevertheless there was none or only limited consideration in favour of farmers structures characteristics.

By analysing RDPs we noted that the impacts of the actions on rural landscape could be very different. For example: extensification of farming, energy crops, integrated farm management and organic farming could have less impacts on rural landscape than set aside measure, preservation of landscape complements and historical features (i.e. hedgerows, ditches, woods), conservation of high-value habitats and their associated biodiversity.

Due to great differentiation of agri-environmental measures implementation among Italian RDPs, we created a scheme to outline common actions (i.e. actions with different labels, but with similar impacts on rural landscape) (Table 1).

Tab. 1 – Agri-environmental intervention of RDPs with rural landscape impacts – F Measure

PP	MAINLY WITH LANDSCAPE IMPACTS	AP	ALSO WITH LANDSCAPE IMPACTS
PP1	creation/protection of agri-ecosystem and typical rural landscape elements	AP1	cover crops
PP2	creation/protection of permanent pastures and grasslands	AP2	energy crops
PP3	local plant varieties and biodiversity conservation	AP3	grass cover for arboreous cultures
PP4	Set aside	AP4	hedge rows/grass borders
PP5	maintenance of abandoned agricultural soils	AP5	integrated farming
		AP6	organic farming
		AP7	extensification
		AP8	local animal species conservation

This scheme helped us to compare the presence of the actions into RDPs (Table 2).

Table 2 – Application of schemed action into Regional Development Plans – F Measure

cod	VALLE D'AOSTA	PIEMONTE	LIGURIA	LOMBARDIA	BOLZANO	TRENTO	VENETO	FRULI VENEZIA GIULIA	EMILIA ROMAGNA	TOSCANA	LAZIO	MARCHE	UMBRIA	ABRUZZO	CAMPANIA	MOLISE	PUGLIA	BASILICATA	CALABRIA	SARDEGNA	SICILIA	Totale
PP1		X	X	X	X	X	X	X	X	X	X	X	X				X	X	X		X	16
PP2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X	19
PP3	X			X	X	X		X	X	X	X		X									9
PP4		X		X			X	X	X	X						X					X	8
PP5			X	X		X						X	X						X			6
AP1		X		X			X	X	X			X										6
AP2							X	X														2
AP3		X		X				X	X		X	X										6
AP4							X	X														2
AP5	X	X		X	X		X		X	X	X	X	X	X	X	X			X		X	15
AP6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	21
AP7			X		X	X		X														4
AP8		X	X	X		X	X	X	X	X	X	X	X									11
Tot	4	8	6	10	6	7	9	11	9	7	7	8	7	3	3	4	2	3	4	2	5	125

Then, to identify the effectiveness of economic incentives in favour of rural landscape, we considered the content of regional annual reports and mid-terms evaluations in relation to previous actions. Unfortunately, in these documents there were none information useful to assess the effectiveness of implemented landscape interventions. In fact, they contained only some comments about the difficulty in identifying the impacts of such actions on rural landscape. In detail, it is often underlined the necessity to wait for long period to be able to evaluate some visible impacts of rural landscape actions.

Consequently, we tried to use alternative information to conduct our analysis. In particular, we used the data about real and expected financial incentives (premia) to agri-environmental interventions by RDPs provided by payment agency (AGEA). We noted that some actions of RDPs had been neither activated nor had demands. Moreover, we pointed out that the largest sum of incentives was devoted to support permanent pastures. This action regarded also the largest rural surface.

To deepen our analysis about the effectiveness of economic incentives we studied the questionnaire presented inside mid-terms evaluations, in particular the demands about rural landscape. There was a great diversity among Regions: in some cases we had not any mention about landscape demands, in some others we could read a not exhaustive reply. Sometimes the question was considered without significance in a local context. We could also have a statement about the impossibility in replying.

Consequently, from the analysis we conducted it was not possible to determine the relationship between economic incentive and rural landscape qualitative features improvement.

In fact, on one hand, the scarcity of sufficient information about economic incentives implementation in favour of rural landscape management in Italy did not give us the opportunity to assess the efficiency and effectiveness of this institutional form of economic intervention. On

the other hand, the relative novelty of the implementation of economic incentives to support rural landscape management required, in any case, careful assessments (OCSE, 2005a). Basically, to identify the impact of financial support on rural landscape it is necessary to consider middle or long periods that is when rural landscape variations (qualitative improvements) could be visible. It seemed, that this impossibility to determine the efficiency and effectiveness in short period is mainly due to the unavailability of adequate rural landscape indicators and valuations, as stated in some regional assessment documents of RDPs.

Nevertheless, it seemed to be necessary to continue to support multifunctional role of primary sector, as we noted in any case an increasing in providing landscape-environmental services, that is an improvement of social benefits, during EU economic incentive implementation period (Marangon *et al.*, 2007), but with the support of adequate estimation methods or indicators to avoid distortions.

EVALUATION METHODS TO SUPPORT INSTITUTIONAL INTERVENTION IN FAVOUR OF RURAL LANDSCAPE MANAGEMENT

Regardless of the adopted policy instrument, it is necessary to underline that public intervention has to be based on the definition and evaluation of the benefits deriving from its implementation. This is possible only if the landscape is clearly defined by identifying its features. Moreover, this opportunity became real if the benefits it provides to the citizens are pointed out and, last but not least, suitable evaluation methods are available in relation to the type of rural institutional instrument we used.

This last point is of fundamental importance: when the public action involves some costs charged to the citizens or the payment of monetary incentives, the policy-maker will always have to evaluate the effectiveness or efficiency of the action. Adequate evaluation methods are therefore indispensable. In fact, by implementing policies for the conservation and improvement of the landscape it is always necessary to assess their benefits. The choice of the evaluation method depends on the landscape policy instrument used and the objectives to be reached.

In any cases, to realize conservation/valorization policies of rural landscape it is necessary to have estimation models on ordinal or cardinal bases.

The value of landscape can be divided into three components (Tempesta and Thiene, 2006): the perceptive value, whose definition is due to population visiting/living in a rural landscape area; the affection value, that is linked to cultural and social characteristics of citizens; the historical and cultural value, that derive its value from the presence of a number of historical elements and their spatial organization in a rural landscape. This last value could be identified mainly by experts.

We can try to estimate the value of rural landscape using several methods. These methods can be divided into two groups: i) non-monetary methods, and ii) monetary methods (Tempesta and Thiene, 2006).

The non-monetary methods are useful in order to find thresholds of aesthetic impact to be respected by the landowner. There are two typologies of non-monetary methods: i) objective or indirect (historical or aesthetic); ii) subjective or sight-perceptive or direct (psychological and psychophysical). They can be utilised with the aim of determining financial incentives to the farmer who improve the landscape quality of their farm by changing the land use or management.

The monetary landscape evaluation methods can also be divided into two broad categories, according to whether they are based on the costs required to improve/preserve the landscape or on the demand for the landscape itself. So we can distinguish between: i) supply (costs) based

methods, that could be divided into analysis of the farmers' opportunity cost of the landscape improvement and estimation of the costs necessary for landscape conservation (defensive expenditure); ii) demand based methods, that can use revealed preferences or stated preferences (i.e. contingent valuation method – CVM and choice experiments - CE).

In particular, conjoint choice experiments are a relatively new methodology in environmental valuation. It has been previously employed in the marketing, transportation and psychology literature for some time. For these reasons some economists think that conjoint choice experiment are more reliable than CVM also if it can be considered a multi-attribute extension of it (dichotomous choice CVM). Recently conjoint choice experiments have been used in the environmental evaluation even if only few studies estimated landscape value using conjoint this estimative method (Campbell *et al.*, 2005; Campbell *et al.*, 2009; Hanley *et al.*, 1998; Morey *et al.*, 2008; Sayadi *et al.*, 2000).

To point out the value of social benefits derived from rural landscape services, we carried out some studies focused in particular on a hilly area that straddles the national border between Italy and Slovenia (Table 3). The Italian area includes “Collio” and “Colli Orientali of Friuli”, while in Slovenia the area covers Goriska Brda, which borders with Italian “Collio” zone.

The purpose of the studies was to identify the social benefits of landscape services, by defining the willingness to pay (WTP) of respondents to the questionnaire use to carry out the surveys, and, consequently, to assign a value to rural landscape.

We applied CV method and CE to define this value.

Table 3 – Monetary rural landscape valuation methods

Authors and year	Area	Valuation method	WTP/year/family
Marangon and Tempesta, 2001	FVG hilly region	CV	€395
Marangon and Tempesta, 2001	Collio	CV	€73
Marangon and Tempesta, 2001	Colli Orientali of Friuli	CV	€113
Marangon and Visintin, 2007	Goriska Brda (residents)	CV	€239
Marangon and Visintin, 2007	Goriska Brda (non-residents)	CV	€38
Marangon, Troiano and Visintin, 2007	Collio, Colli Orientali of Friuli and Goriska Brda	CV	€26
Marangon and Troiano, 2009	Collio	CE*	€149

* Attribute: wood.

The table shows the estimated average WTP obtained by carrying out the analysis.

From the results reported in last column, it is possible to read that well-kept rural landscape amenities produced benefits of €73, €113 and €395 per household per year respectively for Collio, Colli Orientali of Friuli and for the Friuli Venezia Giulia hill region as a whole. Then table shows the estimated average WTP for the Slovenian area (Goriska Brda). In detail, it is possible to ascertain that rural landscape in this area produced benefits of €239 and €38 per household per year respectively for residents and non-residents (we tested the hypothesis that the landscape is a local public good, i.e. it is characterized by different demand for residents and non-residents).

The table also illustrates the results linked to a surveys carried out in Collio, Colli Orientali of Friuli and Goriska Brda in order to estimate the economic value of the rural landscape, focusing in particular on the presence of isolated olive trees in an hill region. By carrying out this survey we found a WTP of €26 per household per year.

By carrying out CE application in Collio to evaluate typical rural landscape, we could determine the value of various attributes of landscape. In particular, the estimated average WTP per household per year in favour of wood and hedge rows was of €149.

Although there were considerable difference in the values we obtained, the findings of the applications of landscape valuation methods gave evidence to the fact that agricultural activity produces externalities that are able to create social benefits. Moreover, we could affirm that the citizens are willing to pay to protect and enhance rural landscapes.

PAYMENTS FOR ENVIRONMENTAL SERVICES AND NON GOVERNMENTAL APPROACHES TO MANAGE RURAL LANDSCAPE

The studies we conducted about landscape valuation allowed us to know the importance given by citizens to rural landscape in terms of value.

We noted, in particular, that a great number of citizens were willing to pay for the provision of an environmental good/ecosystem service that has neither a market nor a price. In detail, they would be willing to pay an amount to provide land users with financial incentives not to degrade landscape and environmental resources and their services, but rather to protect them. These willing to pay shows that the probability of introducing compensation payments depends positively on the benefits deriving from landscape beauties (Hackl *et al.*, 2007).

Payments for environmental services (PES) and Payments for environmental services from agricultural landscapes (PESAL) are economic instruments aimed at providing incentives to land users to continue supplying ecosystem services benefiting society. PES is a mechanism able to translate the landscape and environmental non-market values into financial incentives for land users to provide ecosystem services (Engel *et al.*, 2008), also without the participation of government. In fact, as rural landscape has various values with different characteristics (different use values consumed by residents or by visitors) there could be some difficulties in policy application leading to costly and inefficient institutional interventions. In some cases it could be preferred a private, non-government intervention aimed to internalize the value of rural landscape (Brunori *et al.*, 2007).

Wunder (2005) defined PES as a voluntary transaction, where a well-defined environmental service (or a land use likely to secure that service) is being bought by a minimum one buyer from a minimum one provider if and only if the service provider secures service provision (conditionality). PES seeks to internalize an externality attempting to put into practice the Coase theorem (Coase, 1960). The use of PES could be particularly useful in enhancing the multifunctional role of primary sector: for example, a PES could be implemented to use rural landscape in favour of pastime or educational targets. Recently, the establishment of community-based ecotourism operations has allowed land users to direct tourists' demand for landscape conservation purposes (Hackl *et al.*, 2007).

In the study we carried out we tried to identify the presence of PES into RDPs. We analysed the RDPs of North-Eastern Italian Regions for 2000-2006 and Autonomous Friuli Venezia Giulia Region RDP for present financial period, in particular as regard landscape interventions. Our aim was to collect and analyse all landscape user-financed PES.

First of all, we noted that the agri-environmental measures contained into RDPs are a traditional example of government-financed PES. As such schemes are less likely to be efficient than user-financed PES program, due to the unavailability of first-hand information on services value, to the impossibility to observe directly whether the service is being provided and to the absence of direct incentive to ensure that the program is working efficiently (Pagiola and Platais, 2007), we aimed at identifying the institutional intervention in favour of user-financed PES programs development.

From the analysis we noted that an efficient user-financed PES mechanism were not incentivated. Moreover, we noted that the implemented PES schemes are input-based instead of

output-based payments: the payments might be linked to environmental service provision, but, due to the impossibility to observe the level of supply, it is generally linked to input use. This type of PES scheme could create distortions (Pagiola and Platais, 2007). Furthermore, to design an incentive measure based on ecosystem services provision, it is necessary to value the intangible benefits deriving from well-kept landscape resources.

Then we observed also that payments are mainly uniform (not focused), with little spatial differentiation. Consequently, while on one hand government-financed PES schemes seemed to operate cost-efficiently due to their size (they are larger in scale), on the other hand they were not likely to be efficient in delivering incremental environmental services. Therefore, it is to be hoped that user-financed PES could be implemented, trying to make this scheme cheaper to set up. Moreover, user-financed schemes seem to be able to create Markets for Environmental/landscape Services (MES), characterized by freewheeling transactions between sellers and buyers of these services.

Although landscape beauty market has not been diffused, we noted that successful bargaining outcomes in favour of rural landscape appear to be tourism-motivated (Hackl *et al.*, 2007; Lipper *et al.*, 2009), which is a fundamental economic activity to support the development of whole socioeconomic system.

As hoteliers are expected to benefit from landscape beauties through higher income, they are willing to compensate farmers of the costs of service provision, but it is necessary to monetise the benefits. This is possible through the application of monetary valuation methods, which seems to be necessary to design an efficient and effectiveness PES.

In certain situations also the creation of Non-Governmental Approaches (NGAs) solutions, which have only an indirect presence of government in the negotiations (OCSE, 2005b), or the promotion of voluntary approaches can provide the right alternative for sustainable use of rural landscape (Brunori *et al.*, 2007). In detail, NGAs relates to the solution proposed by Coasian school, that prescribes that government intervention should be restricted to the definition of property rights, instead of PES, where the direct government presence is possible, in particular with payments, although not efficient. Government could intervene in various ways, either in developing specific legislation or providing specific rules.

Only when property rights are well defined pure non-governmental solutions could be reached through decentralized negotiations. NGAs for NCOs could involve i) contracting between privates for the provision of NCOs with payment from demanders to farmers or ii) suppliers voluntarily providing NCOs without pecuniary transactions sometimes involving contracts with consumers and additional resource use (OCSE, 2005b).

The main example of NGAs in Italy is agritourism. In Italian RDPs (2000-2006 and 2007-2013 periods) we identify some governmental interventions to regulate and support NGAs, but in none case the governmental financial support is essential. Government alone is not able to interpret society's demand for NCOs.

Government intervention through agri-environmental payments and NGAs may co-exist, but it is worthwhile to underline that the replacement of governmental by private provision could lead to Pareto improvement. In fact, potential WTP for a specific service replaces broad demand and taxation (i.e. demand is more accurately captured) (OCSE, 2005b).

It seem necessary to underline also the role of voluntary approaches to support rural landscape sustainable management. Their main characteristics are the flexibility in obtaining a target and the reduction of costs. Furthermore, they are able to promote innovation and to improve landscape/environmental performances. Nevertheless, it is still not possible to point out their efficiency and efficacy due to the novelty of their implementation and the lack of sufficient information/data able to identify their impact (Brunori *et al.*, 2007).

Last, but not least, it seems necessary to underline that it is preferable to use at same time several instruments to enhance rural landscape services provision. PES and NGAs are only a pair of

instruments among many systems for enhancing landscape services provision, each one with pros and cons that make it more or less suitable to support a particular supply program.

CONCLUSIONS

To argue the stated matters in this study we analyse the role and the performance of different instruments to preserve rural landscape quality and to guarantee a sustainable use of rural landscape.

We concentrate the analysis on Italian Regions and on a North-eastern Italian Region: the Autonomous Friuli Venezia Giulia Region. We focused our study on relevance of agricultural rural landscape management. We tried to identify and describe the PES mechanisms and to assess their actual working, as regards both government acting and user-financed PES.

We underline that some agri-environmental measures proposed by RDPs (financial period 2000-2006) was designed to support the provision of landscape services. We analysed their main characteristics and performance. Also during present financial period (2007-2013) we have the opportunity to analyse a set of measures devoted by local decision makers to preserve rural landscape.

We observed that there were still a lot of opportunities for enhancing and improving their role (Viaggi, 2008) and the role of private initiatives, not only as regards PES, but also for NGAs, to transform NCOs into Commodity Outputs (COs). This transformation could increase the income of agricultural sector, enabling and enhancing landscape services, but also growing social benefits. It seemed to be necessary to disseminate more information on the potential of private initiative and to pool information on ongoing initiatives developed around the world.

Last but not least, we pointed out the difficulties of government in evaluating the performances of its instrument's intervention. To implement these policies the institutional decision maker has to be able to estimate the landscape. Moreover before estimation it is necessary to identify the benefits deriving from landscape (current and perspective demand for landscape services from agriculture). Without such a definition neither public intervention nor private initiatives would be able to obtain social optimal provision of rural landscape services.

In any case, it seems to be necessary to provide at same time a set of several instruments to support a sustainable rural landscape management, in order to incentive the creation of social positive impacts by multifunctional role of primary sector.

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