

Nature and landscape sustainability in Portuguese rural areas: Which role for farming external benefits valorisation?

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1. Introduction

Nature and landscape in Portuguese rural areas are featured by human action, particularly by agriculture and related activities. Their conservation relies on the maintenance of these activities. Ecologists and landscape specialists acknowledge it. General public it is also aware of that. Human intervention on nature and landscape performed by several generations of farmers give them a cultural dimension, which appears to be quite important for the Portuguese population. However, the agricultural systems, which support these rural agroecosystems and typical landscapes, are declining. They are not sustainable at social and economic levels. This situation creates an important and interesting challenge: how to achieve economic and social sustainability for agricultural activities in the less favoured rural areas, keeping their distinctive nature and landscape? That question give rise to this presentation, which is structured along tree axis: (1) the effectiveness of policy instruments tailored to mitigate land abandonment and to promote sustainable patterns in the changes of land use; (2) the societal demand for environmental and landscape services supplied by farmers and rural populations; (3) the role for new valorisation mechanisms to promote agricultural external benefits supply. In this discussion a closer look is given to the region of Trás-os-Montes e Alto Douro.

2. Which sustainability for traditional agricultural activities?

Data from Agricultural Census of 1989 and 1999, respectively, point out the dimension of land abandonment in Trás-os-Montes e Alto Douro (INE, 1989 and 1999). During this period, statistic data from Agricultural Census displays the disappearing of 10 thousand of exploitations and 30 thousand hectares of utilised agricultural area (UAA) in this Region. Crops more affected by land abandonment were the cereals and the potato. The importance of these crops in the UAA decreased more than an half during the period 1989-1999, both in

absolute and relative terms. The impact of this decrease in the UAA was partially mitigated by growing, in relative and absolute terms, of the area affected to forage and to permanent pastures and crops. Chestnut-trees grove doubled its importance, both in relative and absolute terms. The weight of olive-yards in the soil use also rises substantially during the period considered (see Table 1).

Table 1 – Variations in the UAA occupation in Trás-os-Monte e Alto Douro (Alto Trás-os-Montes e Douro NUT's), between 1989 and 1999

Crops	UAA occupation by crops			Weight on UAA	
	1989	1999	Variation	1989	1999
	(ha)	(ha)	(%)	(%)	(%)
UAA	489 134	457 878	-6,4	–	–
Permanent Crops	178 449	192 796	8,0	36,5	42,1
Chestnut grove	12 341	23 385	89,5	2,5	5,1
Olive yards	61 744	72 288	17,1	12,6	15,8
Vineyards	69 740	64 291	-7,8	14,3	14,0
Almond yards	25 072	21 641	-13,7	5,1	4,7
Annual Crops	230 035	158134	-31,3	47,0	34,5
Cereals	104 428	51 256	-50,9	21,4	11,1
Potato	25 302	12 723	-49,7	5,2	2,8
Familiar vegetable plot	8 008	5 473	-31,7	1,6	1,2
Forage	19 948	28 768	44,2	4,1	6,3
Permanent Pastures	80 645	106 954	32,6	16,5	23,4

The expansion in the area allocated to permanent pastures, around 27 000 hectares between 1989 and 1999, shows that they were one of main destinations of released area from annual crops (around 70 000 hectares). This released area was partially used for the new plantations, situation that explains the inversion between relative weight of annual and permanent crops in the UAA in 1999, relatively to 1989. The last represent now around 42 per cent of UAA, against 36.5 per cent in 1989; the importance of annual crop in UAA decreased from 47 to 34.5 per cent. The remaining UAA disappeared during last decade was partially afforested or mainly abandoned.

Plantation of permanent crops was stimulated by investment aids available from socio-structural component of European agriculture policy. Market prices for chestnut and production grants for olive oil explain these crops' attractiveness for the investment in

plantations. The plantation of almond-yards and vineyards also took place, but in a lesser extent. Vineyards expand on Douro Valley, accentuating the viticulture vocation of this area. But almond yards expanded out of its traditional influence area, the *Douro Superior*. The expansion in these two cultures did not compensated the decrease experienced on other areas, namely on the traditional influential area for almond yards.

The reduction in the UAA, but specially the changes on its occupation pattern, makes evident an adaptation of farmer's decisions to labour scarcity. Those changes are also a response to the incentives presented by markets and particularly by the EU agricultural policies in a context of labour shortage. They also point out to the recovering of plantation vocation in the *Mediterranean Dry Mountain* and the strengthening of its specialising pattern. Geographical distribution of growing plantations indicates a specialising pattern in land use for chestnut-tree groves, olive-yards and vineyards associate to their traditional production areas, respectively the Northeast part of the Region (the *Alto Trás-os-Montes*), its central area (the *Terra Quente Transmontana*) and the *Douro Valley*. This specialising pattern underlines the farmers and landowners concern with cultural adaptation to the local agro-ecological conditions. What evidences their effort to minimise agricultural practices in order to save "time" (labour) and, probably, also "money" (inputs).

The increase in the area affected to permanent pastures might be, at least partially, associate to the cattle breeding. However, the livestock production is receding in the Region. Bovine breeding experienced a decrease of 47 and 13 per cent, respectively, on the number of producers and animals. Sheep breeding is the exception to this general trend. The number of sheep breeders decreased around 16 per cent, but the number of sheep grew around 12 per cent during the analysis period – 1989/1999. These figures point out a more sustainable pattern in economic terms for sheep breeding. Increase in forage and permanent pastures areas is probably related to the need of feeding stabled sheep. Goat production registered a strong decline: 47 and 37 per cent, respectively, on the number of producers and animals, for the period under analysis.

The changes of land use pattern in Trás-os-Montes e Alto Douro in the last decade evidence two main trends. One is the decrease of UAA and growth of afforested area (around 40 per cent between 1989 and 1999). The other is the growth of permanent crops and pastures simultaneously with a strong decline in annual crops. Both trends point out to an orientation

towards a more extensive pattern of human intervention in the agricultural soil and landscape. Farmers and landowners strategies make evident the intention to maintain agricultural use for land in a context of labour shortage, due to demographic restrictions: ageing and depopulation. The expansion of permanent soil occupation according agro-ecological vocation of different areas in the Region illustrated that clearly.

Socio-demographic indicators explain in a large extent the evolution in the general patterns of land use: extensification and durability. The Region loose 30 000 inhabitants between 1991 and 2001 (INE, 1991 and 2001). These figures are not divergent from the general trends for Portuguese population, of ageing and decreasing due to low birth rate, but are above the national averages, confirming the maintenance of Region's disfavour in the last decade, in spite of investments addressed to promote its economic development. In 1999 there were less 10 000 farmers, comparatively to 1999. And the reduction in the number of producers was accomplished by their ageing. The producers with 40 or less years in 1999 were less around 3500, comparatively to 1989; simultaneously, the number of producers with 65 or more years rose from 23902 to 26212, and the weight of this group passed from 29.9 to 37.9 per cent, respectively in 1989 and 1999.

However, the patterns reported in soil occupation and cattle breeding also show the response of farmers and agriculture landowners to the environmental incentives, from the markets and from the public policies. Expansion in chestnut groves and olive yards, and the vineyards in *Douro Valley*, is clearly an answer to market and policy incentives. Data present in this section demonstrate that farmers and landowners respond to external incentives, in spite of unfavourable socio-demographic trends, when they show compatible with context restrictions. Labour shortage, market and policy incentives create a triple dynamic in the visual landscape: extensification, durability and specialisation in certain areas.

Expansion in permanent crops and pastures and increase in the afforested area mitigated the Region potential for land abandonment. But these changes lead to landscape transformation, like was noted before, towards a more specialised and mechanised pattern for soil use at larger plot scale. Besides, new plantations represent generally an impoverishment in local biodiversity and in landscape visual diversity. The positive sides are that they reinforce the presence of some of the Region's traditional cultures in its soil coverage and that they do not present, so far, significant negative externalities.

But the economic sustainability of these new plantations, in the absence of production subventions, implies specialisation and a higher degree of intensification, which are being (and will continue to be) difficult to conciliate with environmental and traditional landscape feature sustainability. The *Douro Valley* illustrates those difficulties in the case of vineyards, where the new vine plantations systems alter markedly landscape features, both visually and ecological richness. Broad sustainability for these “plantations farming systems” could be achieved if they were viewed and managed as a joint production of agricultural quality safe foodstuffs and environmental and landscape services. Subvention to those systems can depend on the provision of these social services, through a cross-compliance scheme as proposed by CAP reform. It is also possible to use direct payments for those services to assure its supply, through an agri-environmental measures scheme, like the one that has being applied to promote organic farming.

The economic legitimacy for the support to environmental and landscape functions eventually associate to these new plantations depends on societal demands for them. Of course that depends also on the society capacity to create incentives for farmers to respond to their demands. Public preferences, namely the public willingness to pay for environmental and landscape services provided by farmers and landowners are determinant for these plantations systems sustainability in social terms. The evidence on this issue is still scarce in Portugal, but the data available point out to a marked preference for the traditional landscape features, which seems to be perceived as bundle of environmental, aesthetical and cultural benefits. Also consensual, namely among environmentalists and nature and landscape experts, is the importance of the cultivated fields in rural areas to maintain ecological equilibriums and biodiversity. But this implies to maintain traditional farming practices, which is complicate in a context of severe labour shortage.

Maintenance of traditional farming systems, which seems to be strong desired by both, the public and the specialists, is still assured in some cases. Permanent crops, notwithstanding the evidence of abandonment, particularly for almond yards, present resilience factors that explain its survival besides the adverse context to it. First of all, they are compatible with a high extensification degree, which is unsustainable for annual crops. Second, they represent a familiar patrimony for their landowners, although more in symbolic terms than in financial value. And, third, some of them, namely olive yards, are still important for familiar consumption and still represent an income source. Policy incentives, particularly agri-

environmental payments also help the maintenance of traditional plantations systems. However, these payments do not reveal, at least in its present formula, capability to sustain traditional farming systems in long term, once exhausted present resilience factors.

3. Societal demands for environmental and landscape services and quality foodstuffs

The decline in the farming external benefits supply happens simultaneously with the increasing of its demand. That reflects preference changes towards nature and landscape conservation, but also the urban population awareness of scarcity for those benefits. Urban population sees rural areas as a reserve of environment quality and a cultural heritage (Reis and Lima, 1998). General public, of all ages and socio-economic strata, wants rural nature and landscape conservation for use and non-use purposes. Contingent Valuation studies conducted in the North of Portugal (Santos, 1997; Madureira, 2001) show a positive willingness to pay of visitors and general public to assure traditional agrarian landscapes conservation. To preserve the rural cultural heritage is the main reason presented by the public to stand for landscape maintenance (Madureira, 2001).

Environmental and cultural benefits associated to rural areas by the Portuguese population seem to be also perceived as determinant attributes for quality of local foodstuffs (Teixeira, 2003). In fact, societal demands for the rural areas include the services for leisure and recreation, the nonuse benefits – conservation of nature, landscape and cultural heritage, and the local foodstuffs and typical gastronomy. These three categories seem to define a package, which respective importance depends on the sites characteristics. Data from a survey to the visitors of *Douro Superior*, conducted in 1998 and 1999, make evident the existence of such package (see Figure 1). This survey was administered (through personal interviews) to a random sample of 796 *Douro Superior* visitors' during February and March, a period that coincides with the almond trees blossom, which is, since years ago, a touristic attraction of the region of Trás-os-Montes e Alto Douro.

The landscape seems to be the principal attraction in the Region, but its demand for leisure and recreation is associated with the search of historic and archaeological patrimony and goods and services that incorporate the local tradition, like the gastronomy. These last two motivate the visits for some of the visitors, although in a considerable distance of the coming to watch the landscape.

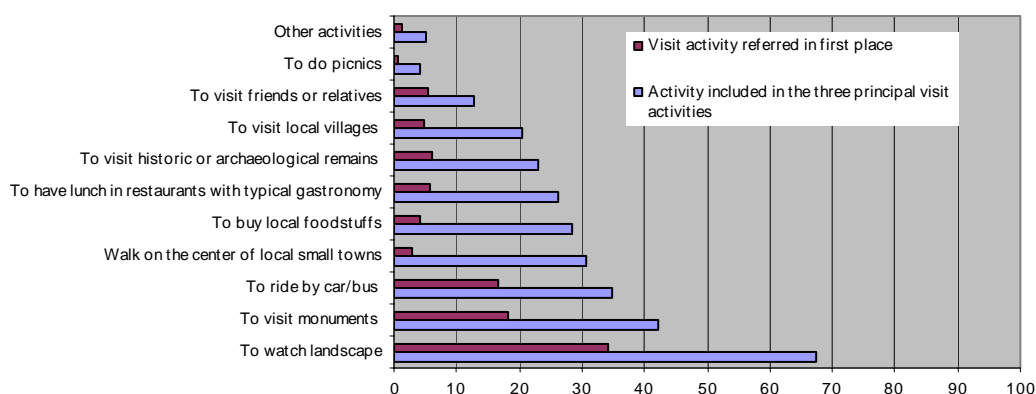


Figure 1 - Visitor's leisure and recreational activities (data from Madureira, 2001)

The demand for a more diversified range of activities increases, as expected, with the visit's length. Short visits, namely "one day visit" are more associate with landscape and gastronomy demand (see Figure 2). However, even in brief visits, individuals search for different activities. This pattern for leisure and recreation demands underlines the complementarily among different aspects of rural areas. But it also evidences the territory-base nature of societal demand for leisure and recreation in rural areas.

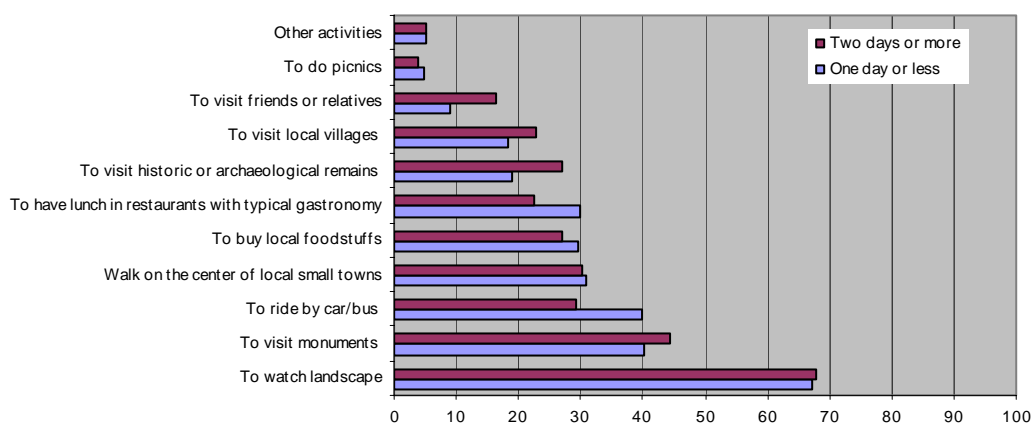


Figure 2 – Leisure and recreational activities according visit's length (data from Madureira, 2001)

This search for different, but complementary, territory-base activities need to be accounted in the promotion strategies used to encourage tourism expansion in disfavoured rural areas. The visitor's behaviour shows a demand for "general" not specialised leisure and recreational activities, which look for the traditional and typical features of the area visited. If they do not find it, because they find landscape degraded or find the restaurants uncharacteristic, they

express their disappointment with the area visited. The “area” is the “product” demand by visitors, and to be attractive has to be typical in some way. Therefore, the area’s identity seems to be the more valuable resource for touristic expansion, at least for similar contexts to the one represented by *Douro Superior* and the Trás-os-Montes e Alto Douro Region in general. This conclusion is based on case study results present here, but the sample dimension and its heterogeneity makes these results quite general, at least for the demands of the population from the North-Centre part of the Country (see Figures 3 and 4).

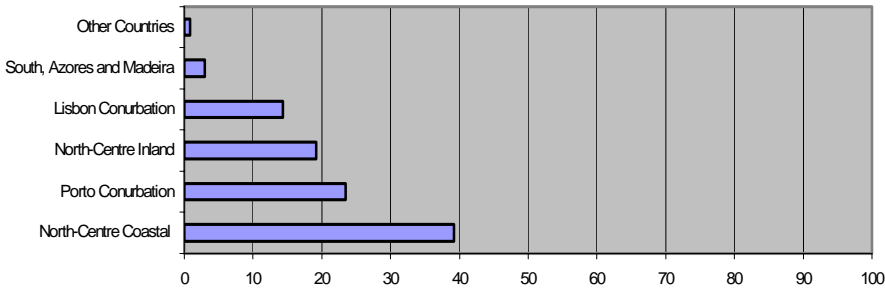


Figure 3 – Visitors according area of residence (data from Madureira, 2001)

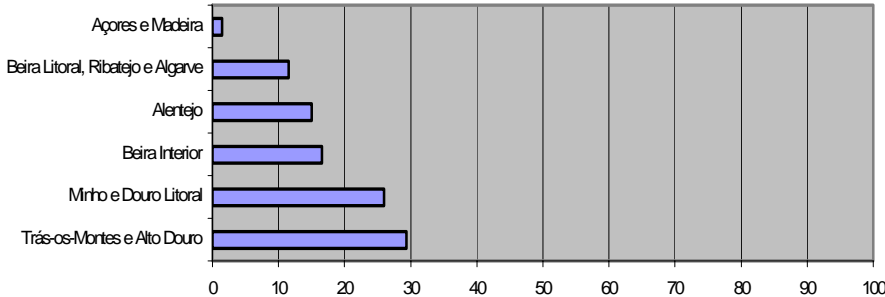


Figure 4 – Countryside areas visited in the year previous to the survey (data from Madureira, 2001)

The information obtained regarding the visitors preferences for *Douro Superior* attribute’s landscape underline the almond yards, like expect, considering that the survey was conducted during the almond trees blossom, which is responsible for the bigger concentration of visitors in this area along the year. Almond yards are the principal attraction in the landscape for one in each three visitors. The almond yards are classified as a typical attribute of the area visited by 94 per cent of the two other visitors (the one that did not classified almond yards as the most important aspect on the landscape).

Besides almond yards, the vineyards in traditional terraces (typical from the *Douro Valley*, which includes areas of the *Douro Superior*) and the *stony and scarp areas* are the favorite attributes of the landscape. And, besides the presence of large areas of brushwood in the local landscape, the visitors reveal a clear preference towards its “cultivate” feature (see Figure 5).

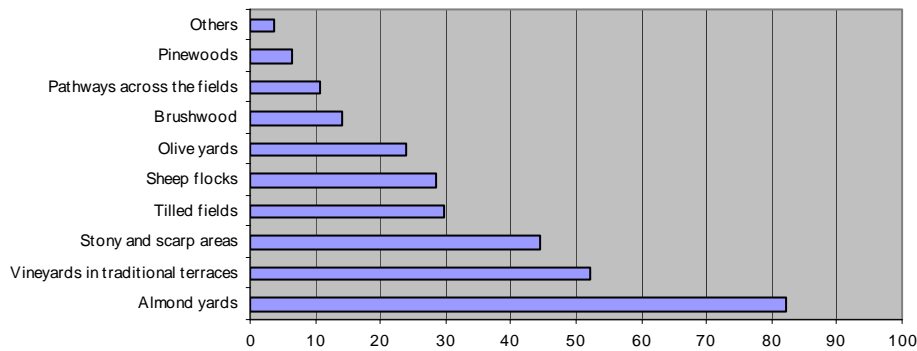


Figure 5 – Visitors preferences regarding landscape attributes (data from Madureira, 2001)

The preference for almond yards seems to be related with different type of landscape attributes (chi-square test). These attribute’s types are: (1) more “nature like” attributes, which includes geological and forested areas; (2) the ones that define “cultivated landscape”, like the vineyards, olive yards and tillage fields occupied by annual crops; (3) Another type, maybe in between, includes the sheep flocks and the pathways, and indicates an undefined the dichotomy nature/cultivated landscape feature. Crossing these landscape types with visitor’s socioeconomic characteristic, using chi-square test, indicates: (a) no independence between “cultivated landscape” and aged and poor individuals; (b) that the “cultivated but nature like landscape”, like the traditional almond yards and terrace vineyards, tends to be preferred by individuals with higher education and income levels.

Data presented in this section were obtained through a survey which main purpose was to get information regarding willingness to pay of visitors and urban population from the region of Trás-os-Montes e Alto Douro for different landscape management options. The fundamental options were three: (a) to maintain traditional almond yards; (b) to allow its replacement by forest (cork tree based); (c) to abandon cultivation on the areas presently affected to almond yards. Combination of these three soil allocation patterns originates several options for future landscape on the area of *Douro Superior*. Seven of them were presented to the visitors and to the urban population from Trás-os-Montes e Alto Douro (see Figure 6).

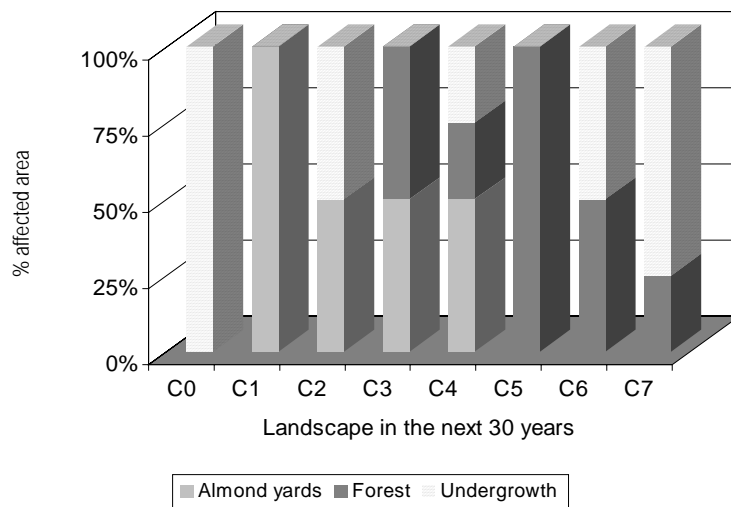


Figure 6 – State of the landscape according management option (Madureira, 2001)

Individual preferences regarding these different landscapes provide evidence over preferences for broad management options for landscape: (1) preservation of its traditional character; (2) conversion of traditional landscape into environmentally valuable forest; (3) to abandon landscape, letting it to be converted in undergrowth and brushwood areas.

The results obtained through a contingent valuation survey¹ display clearly visitor's preferences for "preservation" of almond yards (see Table 2). The main reason for a positive willingness to pay for almond yards maintenance is the visitor' concern with preservation of cultural heritage from the Portuguese rural areas, which they classify as a fundamental dimension of the national patrimony. Only one quarter of the respondents referred other reasons, like to preserve the environment, to preserve landscape for use on the future or to avoid depopulation of the Region (see Figure 7).

¹ The willingness to pay of the individuals (visitors and inhabitants in the urban areas of the Region) was obtained through the Contingent Valuation technique in a Dichotomous Choice format. In this valuation format a price is fixed to an environmental quality variation and the respondents decide if they pay or not the price given to them. In this case the valuation object were variations in landscape state, between the baseline – represented by the abandoned landscape, and a target level – one of seven landscape states presented in Figure 6.

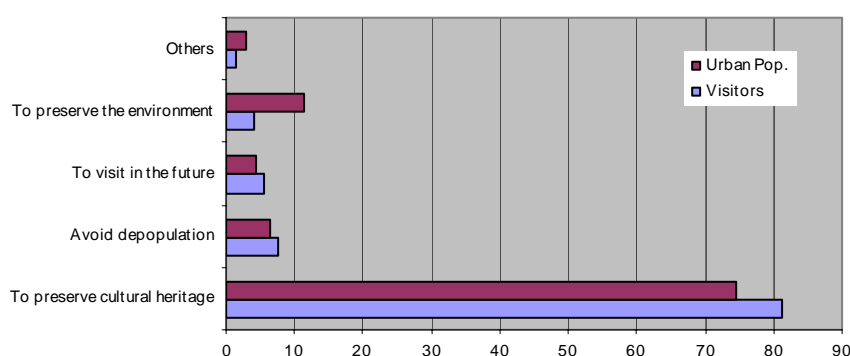


Figure 7 – Principal reason for a positive willingness to pay for almond yards preservation (Madureira, 2001)

The results obtained for the urban population of the Region are not quite different from the ones got for visitors. The reasons that urban from the Region presented to pay for almond yards preservation is similar to visitors. But this group (urban from the Region) seems to give a bigger importance, in comparative terms, to the contribution of maintenance of almond yards to environment preservation (see Figure 7). These individuals seem to be particularly concerned with landscape abandonment and aware of its consequences to the Region environment quality. This concern explains why they are more available to pay, comparatively to visitors, for almond yards conversion to forest, when that prevents land abandonment.

Table 2 - Media expect value estimates for the for willingness to pay for different landscape management options (values in euros)

Landscape management option	Visitors	Urban from the Region
To preserve 100% of almond yards area	82.1	69.8
To preserve 50% of almond yards area	64.8	49.2
To preserve 50% of almond yards area AND to forest the remain area	64.4	61.7
To preserve 50% of almond yards area AND to forest 25% of the remain area	70.2	58.0
To forest 100% of the area	41.3	35.6
To forest 50% of the area	43.2	28.1
To forest 25% of the area	27.3	16.6

The figures presented to willingness to pay for different landscape management options show the usefulness of economic valuation techniques for non-market goods as a tool to get information on societal demands for landscape and environment preservation. In this case it is evident that afforestation is seen as positive option comparatively to land abandonment, from

the point of view of visitors and urban from the Region. But it is also evident that they see the afforestation option as *the lesser of to evils*, comparatively to almond yards preservation.

Getting information on the public preferences regarding environmental and landscape services from rural areas is fundamental to define payments in order to sustain farming activities in the frame of the *agro-environmental systems* (Avillez, 2004). These are agricultural systems sustainable in a social perspective, since environmental and landscape services they provide to the society are properly paid to farmers and landowners. These payments define a clear application of the *Principle of the Provider Gets*, differently from what happens with present agri-environmental measures that were defined and perceived by the farmers as an income aid. This clarification, if actually done, makes a clear-cut with the idea of agri-environmental aids as income subventions, the popular idea of “getting paid to do nothing”.

4. Incentive schemes to promote supply of environmental and landscape services

To implement sustainable *agro-environmental systems* implies a clear definition of the goods and services to be supplied by farmers or landowners and an effective monitoring scheme in order to connect payments with these “new products”. The use of contracts with clear definition of services to be supplied, and payments to be received for, sounds to be a practicable scheme to do it. Well defined contracts could be extend to other contractors besides the State. Touristic operators might be potential contractors for areas with a significant touristic demand. In the Region a scheme like that seems to be conceivable probably only for *Douro Valley*. These contractor agents could eventually charge users (the tourists) in order to obtain financing to support the payments to farmers and landowners. But other contractors are conceivable, like Autarchies and NGOs, although funding looks more difficult is this case.

These contracts for provision of environmental and cultural services are an arrangement that allows simultaneous application of the Beneficiary Pays and the Provider Gets principles for farming external benefits valorisation. The more attractive feature of involving local agents in the financial schemes to pay farmers and landowners for the supply of cultural and environmental services is to make them responsible for the preservation of local patrimonies. Presently they see it as central administration job, with little gain for the rural areas. The local patrimony preservation is still looked with distrust, a dead weight that resists obstinately

turning in economic development. These contradictory feelings about preservation in rural areas are partially a result of maybe too high expectations on touristic expansion and its economic return, but they reflect also the adoption of a dichotomous incentive's scheme that separates preservation from modernization.

This dichotomous frame is quite evident in the case of agricultural activities support. The incentive's scheme used during the last decade separates the conservation from the farming activity modernization. Conservation of cultural heritage, provision of environmental and landscape services was ascribed to the traditional systems and investment incentives were used to modernize the farming activities, namely through intensification and changes in the soil use pattern. Organic farming subventions can be seen as an exception to this dichotomous incentive frame.

The balance of this dichotomous incentive frame does not seem encouraging, at least in terms of its ability to launch the foundations for sustainable *agro-environmental systems*, seen as the major opportunity of recent CAP reform for regions like Trás-os-Montes and Alto Douro (Avillez, 2004). The policy measures used to incentive these farming systems come up in 1992 as result of CAP reform at that time. In Portugal they start to be implementing in 1994. The main policy measure were the agri-environmental payments, under Reg. (EEC) No 2078/92, which were oriented, in Portugal, to support extensive farming systems, local breeds and some typical landscape attributes. Organic farming was another target sector for agri-environmental measures. Incentives to quality foodstuffs were also launched at same time, through the creation of quality labels: protected designation of origin (PDO) and protected geographical indication (PGI), which relates the quality of agricultural products with its origin territories [cf. Reg. (EEC) No 2081/92]. These policy instruments were (and are still) part of a larger set of measures meant to promote rural development.

Ten years are past since implementation of both EU Regulations in Portugal, which it is time enough for a balance. Did these measures helped effectively to couple environmental with economic and social sustainability? The answer seems to be negative. The effectiveness of agri-environmental measures directed to maintenance of extensive farming systems is supported by their endogenous resilience' factors. That it is quite evident in the region of Trás-os-Montes e Alto Douro. These measures were unable to hinder the abandon of cereals cultivation in dry arable lands, a traditional farming system on the Region. But, they show

effective to sustain permanent cultivation's, the one that contains the resilience factors already advanced: compatibility with high extensification degrees, importance in terms of familiar patrimony for landowners and importance for familiar consumption and/or income source.

Impact on organic farming expansion seems to be a little more positive. The area converted to these environmentally friendly systems increased, in the Region, around 226 per cent between 1994 and 2002 (from 3 324 to 10 883 hectares)². However, the area affected to organic farm in 2002 represents only a little more than 2 per cent of UAA in the region of Trás-os-Montes e Alto Douro and only 11 per cent of the total National organic farm area. Difficulties in expanding the Portuguese market for organic foodstuffs seem to be mainly related with limitations on the distribution sector for this type of products (Costa, 2004). The European Commission (1998) acknowledges the lack of market outlets to organic farming and its negative impact to this sector expansion.

The promotion of local quality foodstuffs, through the label instruments PDO and PGI, reveals also a very limited success in the Region according Tibério (2003). The label does not seem to very significant for the consumer (Teixeira, 2003 and Tibério, 2003), although consumer's show to be aware of the territory-based quality of some local foodstuffs.

The balance presented, although limited and partial, evidences the lack of an integrated framework to promote farming external benefits valorisation. The idea of a Region brand, sometimes advanced in the context of discussions around valorisation issue, configures an instrument apparently able to answer to the societal demands for those external benefits. It could be used as a global promotion instrument for tourism expansion and quality foodstuffs at Region level. This instrument could be alternative or complementary used to identify different areas in the Region. To be successful it has to present a "product" that corresponds to the consumer's image and that can be effectively found. The consumer's image of the Region, considering available evidence, seem to anchor on local cultural heritage, which is for the general public closely related to the traditional farming activities maintenance.

To provide substance to the consumer's image it is the harder part in the next years. That implies a living territory, and that implies changes. But societal demands mean also opportunities to allow positive changes on farming activities. The Region's experience, in last

² Data available on the site www.organic-europe.net/europe.eu/statistics.asp

decade, over external benefits valorisation suggests that bet more on a joint production strategy could be a way out to sustain the production of safe quality foodstuffs. In this case external benefit valorisation could be done simultaneously through Beneficiary-Pays and Provider Gets policy principles. Subvention area or exploitation based could be used to support safe quality production, through a cross-compliance scheme. Permanent crops and local breeding seem to be well positioned to respond to such a scheme.

The contracts for environmental and cultural services could also be used for joint production oriented agro-systems. With this framework the payments could also be settled for the “new plantation systems” oriented by joint production logic: safe quality foodstuffs and environmental and landscape services. Attractive incentives to preserve traditional farming systems could attract farmers and landowners to keep them in a more close relation with the joint production systems. That would reduce contracts costs and appears to be a stronger arrangement to prevent land abandonment affected to traditional farming systems.

5. Final remarks

Empirical evidence shows there is a strong societal demand for preservation of typical features of rural areas, for both, use and non-use reasons. Demand for use has two axes: the safe quality foodstuffs and the leisure and recreation services. These demands are territory-based and are narrowly tied. Thus it looks quite advantageous to promote them jointly. That would help to define a living territory image for rural areas, with productive functions. That seems to be essential, both in practical and symbolic terms, to assure supply for those demands. External farming benefits valorisation strategies need to connect preservation of traditional elements with productive activities. Well define contracts for the provision of cultural and environmental services could be used to define “new products” from the supply side. Presently they are products only on the demand side.

Looking at resilience factors present in some traditional farming systems seems fundamental to achieve preservation of traditional landscapes and other elements of cultural heritage, with a reasonable cost to the society. Thus, two central driven lines for a strategy designed to turn preservation attractive from supply side could be: (a) to make cultural and environmental services valuable, both in monetary and symbolic terms; (b) to invest in development and adoption of labour saving technologies adapt to the architecture of traditional landscapes.

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