

## Tourism promotion and the tourist demand for landscape features. The Alto Douro Wine Region

### La promotion du tourisme et la demande touristique en matière de caractéristiques de paysage. La Région viticole de l'Alto Douro

### La promozione del turismo e la domanda turistica per le caratteristiche del paesaggio. La Regione Viticola dell'Alto Douro

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#### Abstract

The Alto Douro (AD) wine Region is dominated by the viticulture and wine production. These activities shaped a unique landscape, at national and international level, which has been added to the World Heritage list by the UNESCO in 2001. This landscape is the outcome of a remarkable human construction made by winegrowers that reshaped steep and stony hills into vineyards, supported by schist walls and growing in anthrop-soils made with the local geological material, the schist. But, at the present days two contradictory trends define this winescape dynamics: (1) the modernisation of the old vineyards, demanded by winegrowers needing to cut on the production costs; (2) the pressure to maintain its typical features, justified by the inscription in the World Heritage list and also by its role in tourism promotion.

Tourism is considered by many actors as the key activity to the socio-economical development of the AD wine Region for the next years. This idea and the contradictory trends regarding winescape dynamics, raises questions such as: (a) to understand the importance that landscape plays in the tourist's attraction; (b) to identify the visitor's perceptions and preferences regarding different attributes of the landscape. To get answers to these questions, a survey was designed and administrated to the visitors of the AD wine Region during the summer of 2004. The questionnaire addressed: (i) visits characteristics and motivations; (ii) visitor's familiarity with the Region and their landscape description and evaluation; (iii) the monetary valuation of winescape attributes; (iv) the socio-economical profile of visitors. The survey was carried out through personal interviews conducted by trained interviewers. A total of 632 valid interviews were achieved.

Among the main results three are highlighted here: (1) the tourists are motivated by experiences in natural environment and nature; (2) calmness and peacefulness emerge as central attributes of the Region's image to the tourists; (3) they perceive and are willing to pay for the preservation of typical features of winescape. These results evince the tourists demand for nature-based experiences and suggest an enlarged perception of nature, which includes humanized landscapes with a marked cultural character. Therefore, strategies for tourism promotion must take into account the importance tourist give to nature-like perception of cultivated landscapes, such as the AD wine Region.

#### Résumé

La Région de l'Alto Douro (AD) est dominée par la culture de vignobles et la production de vin. Ces activités sont à l'origine d'un paysage unique, tant au niveau national qu'international, qui lui a valu d'être inscrit sur la liste du Patrimoine Mondial de l'UNESCO en 2001. Ce paysage est le résultat d'une construction humaine remarquable, élaborée par des vigneronniers qui surent transformer de rocailleuses collines escarpées en vignobles, soutenus par des murs de schiste, poussant sur des sols bâtis par l'homme et constitués de la matière géologique locale: le schiste. Mais, de nos jours, deux tendances contradictoires définissent les dynamiques de ce paysage viticole: (1) la modernisation des vieux vignobles, réclamée par les viticulteurs désireux de réduire les coûts de production; (2) la pression exercée pour que ces caractéristiques typiques soient conservées, justifiée par l'inscription de ce paysage sur la liste du Patrimoine Mondial et également par son rôle dans la promotion du tourisme.

Le tourisme est considéré par plusieurs acteurs comme l'activité clé du développement socio-économique de la Région viticole de l'AD pour les années à venir. Cette idée ainsi que les tendances contradictoires concernant les dynamiques du paysage viticole, soulèvent des questions telles que: (a) quelle est l'importance du rôle joué par le paysage dans l'attrait touristique; (b) quelles sont les perceptions et les préférences des visiteurs concernant les diverses particularités du paysage. Afin d'obtenir des réponses à ces questions, une enquête a été élaborée puis réalisée auprès de visiteurs de la Région viticole de l'AD au cours de l'été 2004. Le questionnaire mettait en œuvre: (i) le caractère des visites et leurs motivations; (ii) le degré de familiarisation des visiteurs par rapport à la Région et leur description et évaluation du paysage; (iii) l'évaluation monétaire des particularités du paysage viticole; (iv) le profil socio-économique des visiteurs. L'enquête a été menée sous la forme d'interrogations directes par des interviewers professionnels. Un total de 632 questionnaires a été validé.

Parmi les principaux résultats, trois points se dégagent nettement: (1) les touristes sont motivés par les expériences avec la nature et dans un environnement naturel; (2) la calme et la quiétude s'avèrent être les aspects qui sont au cœur de l'image de la Région aux yeux des touristes; (3) ils perçoivent et sont prêts à payer pour la préservation des caractéristiques typiques du paysage viticole. Ces résultats mettent en valeur la demande des touristes en matière d'expériences avec la nature et suggèrent une plus vaste perception de la nature, comprenant des paysages humanisés à caractère traditionnel fortement marqué. Ainsi, les stratégies de promotion du tourisme doivent tenir compte de l'importance que les touristes attribuent à la perception de la nature dans les paysages cultivés, tels que la Région viticole de l'AD.

## Riassunto

La regione viticola dell'Alto Douro (AD) è dominata dalla viticoltura e dalla produzione di vini. Queste attività hanno generato un paesaggio unico, a livello nazionale e internazionale, che è stato iscritto nelle liste del Patrimonio Mondiale dell'Umanità dell'UNESCO nel 2001. Questo paesaggio è il risultato di un'opera umana rimarchevole, effettuata da viticoltori che hanno saputo trasformare ripide colline rocciose in vigneti, sostenuti da muri di scisti e divenuti suoli antropici costituiti da materiale geologico locale: gli scisti. Ma oggi due tendenze contraddittorie definiscono le dinamiche di questi paesaggi viticoli: (1) la modernizzazione dei vecchi vigneti, richiesta dai viticoltori desiderosi di ridurre i costi di produzione; (2) la pressione esercitata affinché questi caratteri tipici siano conservati, giustificata dall'iscrizione di questi paesaggi nelle liste del Patrimonio Mondiale e per il loro ruolo nella promozione turistica.

Il turismo è considerato da diversi attori della filiera come l'attività chiave per lo sviluppo socio-economico della regione viticola dell'AD nei prossimi anni. Questa idea e le tendenze contraddittorie circa le dinamiche del paesaggio viticolo, hanno sollevato questioni quali: (a) quale sia l'importanza del ruolo del paesaggio come attrazione turistica; (b) quali siano le percezioni e le preferenze dei visitatori riguardo le diverse peculiarità del paesaggio. Al fine di ottenere delle risposte, è stata elaborata un'inchiesta sottoposta ai visitatori della regione viticola dell'AD nell'estate 2004. Il questionario ha indagato: (i) il carattere delle visite e le loro motivazioni; (ii) il grado di familiarità dei visitatori con la regione e la loro descrizione e valutazione del paesaggio; (iii) la valutazione monetaria delle particolarità del paesaggio viticolo; (iv) il profilo socio-economico dei visitatori. L'inchiesta è stata condotta sotto forma di domande dirette effettuate da intervistatori professionisti. Un totale di 632 questionari è stato raccolto.

Tra i principali risultati tre punti si sono distinti nettamente: (1) i turisti sono motivati da esperienze con la natura in un ambiente naturale; (2) la calma e la quiete si sono dimostrati essere gli aspetti centrali dell'immagine della regione agli occhi dei turisti, (3) percepiscono e sono disposti a pagare per la conservazione delle caratteristiche tipiche del paesaggio viticolo. Questi risultati evidenziano la domanda dei turisti di esperienze con la natura e suggeriscono una più vasta percezione della natura stessa, che includa paesaggi antropici a carattere tradizionale marcato. Le strategie di promozione del turismo dovrebbero tenere conto dell'importanza attribuita dai turisti alla percezione della natura nei paesaggi coltivati, come nella regione viticola dell'AD.

## 1. Introduction

The customer orientation prevailing in the marketing concept poses that products and services should be designed, developed and marketed after a thorough knowledge of customers' motivations, attitudes and behaviours. However, destination marketing organizations usually have no control over product development and must therefore focus on identifying target markets fitted to their constraints (Pike, 2004). Moreover, the resources that eventually become tourist attractions are seldom explicitly designed for tourism marketing and tourist (dis)satisfaction is ultimately related to the involvement of the community with tourism. The resulting implication is that, in destination marketing, the customer orientation must be balanced with a product orientation (Haywood, 2000), finding the right customers. This careful targeting, considering each segment's attractiveness and destination-fit, or 'management of demand' (Kastenholz, 2004), is fundamental to avoid the degrading effect of massification and preserve the resources that attracted tourists at the first place.

To ensure sustainability, destinations often need to target to different segments, which additionally raises the question of compatibility between their valuation of countryside features and expectations regarding product development. A segment well fitted to a rural destination will have an interest in preserving natural, cultural and social features of the countryside, demand small investments in tourism infrastructures, and produce few negative impacts on heritage (Kastenholz, 2004). Rural heritage and nature-related attributes are often mixed in the rural landscapes, where farming activities had reshaped nature and architecture and defined a local-based rural culture (Caradec et al., 2005). Tourists and visitors seem to appreciate these mixed landscapes and to obtain significant economic benefits with its provision, namely in the European countries (Drake, 1992; Garrod and Willis, 1995; Pruckner, 1995; Santos, 1997; Le Goffe, 2000; Madureira, 2001, Siriex, 2004). However, the production of agricultural goods is now difficult to jointly manage with the safeguard of those mixed landscapes. UE had launched, in the last decade, programmes like the agri-environmental measures which deliver money incentives to the farmers who accept to supply non-market goods, such as the environment and landscape preservation. Nonetheless, these incentives do not appear to be sufficient to assure the preservation of environmental and cultural assets in the Portuguese case (Madureira, 2004).

This paper introduces a case, the Alto Douro (AD) wine Region, which illustrates the difficulties to preserve the typical features from the landscape in the context of a market oriented farming activity. In this area the viticulture and the wine production shaped, for the last 250 years, a rather singular winescape. Such singularity has been internationally acknowledged with the AD winescape inscription in the World Heritage list, by the UNESCO in 2001. This qualification has increased substantially the concern with the preservation of winescape typical features. Nonetheless, the pressures towards its preservation might not be enough to restrain irreversible changes related with the expansion of modern vineyards and urbanisation of rural land. The expected development of tourist demand for this area raises, in turn, contradictory pressures over landscape safeguard. Therefore, knowing how tourists perceive the AD landscape and which role it plays on the attractiveness of the

destination, were the two main questions that originated the research here presented<sup>1</sup>. A survey-based approach was used to gather data about tourists' motivations for visiting the area, their attitudes and the monetary value of the benefits they ascribe to the preservation of winescape typical character. The aims of the research were twofold. On one hand, to find how the tourist perceived and felt the AD winescape and if a pro-preservation attitude corresponded in fact to a positive willingness to pay; and, on the other hand, to know if the motivations for visiting were tuned with attitudes and preferences related to the landscape preservation.

Adding to the knowledge about tourists' motivations, attitudes and economic valuation, results from this research are expected to be useful to land use planning and management, to 'management of (tourism) demand' and to the design of policies for the preservation of typical winescape attributes, which, in turn, are seen as key elements to AD tourism promotion.

The rest of the paper is organised as follows. Section 2 introduces briefly the study area. Section 3 describes the survey design and implementation. The results of survey are discussed in the Section 4. Finally, Section 5 concludes.

## 2. The study area

The Alto Douro (AD) wine region is dominated by the viticulture and wine production at least for the last 250 years. Its peculiar winescape has been constructed by successive generations of winegrowers which had reshaped steep and stony hills into terraces supported by schist walls, where the vines grow in the anthrop-soils they also had produced with the local geological material, the schist. This winescape changed inevitability across the times, but in a way that the history of winegrowing activities had been impressed on it until the present days. This feature of being a living museum has been determinant to its inscription in to the cultural landscape World Heritage list.

Despite the dominance of vineyards in the typical landscape of the AD region it is, according to experts and local people, a patchwork, mixing old vineyards, olive and orange orchards, Mediterranean bushes and autochthonous vegetation growing in abandoned schist terraces. This last grows in old abandoned terraces where the vineyards were killed many years ago by the phylloxera, a vine pest that almost destroyed the winegrowing activity in the Douro Valley in the last quarter of nineteenth century. The patchwork view is accentuated by the presence of quickset edges and schist wall dividing parcels and surrounding rural pathways.

The appearance of the new vineyards in the last decades, installed according modern plantation techniques, defined different architecture patterns in the winescape, which forego the schist walls and the living edges. Nevertheless, they can be still envisaged as an attribute contributing to the landscape diversity. However, in the more recent years is already noticeable, according to the experts and some local stakeholders, an excessive extension of modern vineyards. Its expansion threatens, according to those, the maintenance of the typical pattern of AD winescape, grounded on the cultural diversity, land partition and a singular rural heritage.

In this context, of conflicting pressures towards the typical winescape safeguard, appears quite informative to know what tourists and visitors feel about it, considering that tourism is envisaged by the local actors as the key sector to the socio-economical development of the AD region. Furthermore, tourism expansion tends to burst contradictory pressures over land use, and information is needed to accommodate it in a sustainable management strategy for this area.

## 3. The AD Survey

This research was based upon two sequential surveys. Firstly a qualitative survey was designed and implemented to gather data regarding the tourist perceptions and preferences towards different states for the AD winescape. These results were used to assist the conception of a quantitative survey designed to obtain data in relation to tourists' motivations, their image of the destination, and to estimate the monetary value ('the price') they ascribe to the typical winescape preservation.

### 3.1. Qualitative survey

The qualitative survey was designed to be administrated to a small sample of tourists during their visits to the AD region, to obtain their perceptions and tastes regarding the typical attributes of the AD winescape. Therefore, the respective questionnaire was conceived to focus on the respondents' choices for different states of the winescape, defined as different combinations of typical attributes.

Those choices were proposed to the individuals as follows: (1) Firstly they were requested to choose their preferred landscape from a set of six different options; (2) Then respondents were asked to choose their most preferred view from the remain five; (3) And then they were asked to repeat the choice for the third preferred

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view; (4) Finally, respondents were solicited to elect their less preferred landscape from remain four. Follow up questions were used to know the main reasons invoked by individuals to justify their choices.

The choice sets included six views randomly selected from a series of ten. Yet all the choice sets included the view corresponding to the ‘present state of winescape’, which has been depicted using an actual image picked up in the AD region in the year 2000. This image contained the key attributes defining the typical winescape, but displayed also the trend to the expansion of modern vineyards. Beginning with this view, and using computer imagining techniques, ten alternative landscapes were defined, varying the relative proportion of attributes: ‘old vineyards’, ‘modern vineyards’, ‘olive-yards’ and ‘Mediterranean bushes’ (and autochthonous vegetation). These alternative ‘landscapes’ included: (1) the typical patchwork (*patch*); (2) winescapes dominated by old vineyards (*old 1* and *old2*); winescapes with an increasing proportion of modern vines (*new1*, *new2*); landscapes with an expanded area of Mediterranean bushes (*bush1*, *bush2*, *bush3*).

The qualitative survey has been administrated during the weekends for the period June-July of 2004. Personal interviews were used to deliver the questionnaire<sup>2</sup>. That has allowed for the random presentation of alternative ‘landscapes’ to the respondents. This ‘landscapes’ were shown through the corresponding digital images in an A4 size. Around 90 individuals were randomly contacted by the interviewers during respective visits, resulting in 79 valid interviews.

### 3.2. Quantitative survey

As in the qualitative survey, visitors were contacted by the interviewers during their visits and requested to participate on the survey. The interviews were done during the period July-October of 2004. Sample size (n=632) was determined by the budget available. The cost per interview was higher for boat passengers than for visitors on the selected sites, so the stratum of passengers was defined as only 1/3 of the total sample. The questionnaire comprised questions about composition of travel party, motivation for travel, reasons to choose AD, affective appraisals of origin and destination of travel, attitudes and valuation of the landscape and, at the end, background variables from the respondent and respective household. Cruise passengers were also asked about service perceptions and satisfaction. The methodological foundations of affective image of the environment, motivations for leisure travel and economic valuation of the landscape, are exposed in this section. The bi-dimensional model of emotions attributed to the environment (Russell & Pratt, 1980) has been successfully applied to the affective assessment of diverse environments. The first dimension of the model is *pleasantness*, which refers to positive versus negative affective states, and the second is *arousal*, related to level of stimulation or rate of information the individual is exposed to. The model was applied to destination images using semantic differential scales (Baloglu & Brinberg, 1997) or Likert scales assessing the emotional poles separately (White & Scandale, 2005). A different approach was proposed in this research, a number of discrete emotions representing high and low levels of each factor was presented to respondents, who picked the ones they thought better characterize their daily environment. Three emotions were defined for each of the four combinations of factor levels, which are *tense*, *distressing* and *restless* (high arousal and low pleasantness), *exciting*, *lively* and *interesting* (high arousal and high pleasantness), *boring*, *dull* and *sad* (low arousal and low pleasantness) and *relaxing*, *refreshing* and *safe* (low arousal and high pleasantness). The emotions were originated in a focus group with undergraduate students and tested on a sample of 32 tourists, whose data were correctly depicted in two dimensions by a Multidimensional Scaling analysis. It was found that these discrete emotions are good indicators of *both* latent factors of emotions attributed to the environment (Marques, 2005).

Relating the travel motives, they were validated by a confirmatory factor analysis in a sample of 558 Portuguese domestic travellers, but, instead of the original seven point scale, a more affordable dichotomous scale was used in this questionnaire.

The hypothetical market was constructed according to the Contingent Valuation (CV) technique (Mitchell and Carson, 1989). This is a very popular monetary valuation technique widely used to value non-market goods, namely environmental quality, wildlife preservation and alternative management options for forest and landscape (OECD, 2000). There are some applications of CV technique in Portugal, namely to value changes in the landscape quality (Santos, 1997; Madureira, 2001), nature preservation in rural areas (Nunes, 2000) and alternative options for forest management (Madureira and Nunes, 2004).

The CV corresponds basically to a market study where the ‘good’ is a variation in the state of landscape (or another non-market good) with a fixed or open price, which is offered to the ‘consumer’ through a questionnaire. Its principal novelty, comparatively to the market goods valuation, is that CV intends to obtain both use and non-use value for non-market goods, such as environmental or cultural assets. The non-use value refers to the benefits that individuals obtain simply with the preservation of those assets, due to altruistic motivations

<sup>2</sup> All the interviews, for both qualitative and quantitative survey, were conducted by trained interviewers from the market research firm, GBN, Lda.

addressing future generations or because they attach a significant value to the asset continuation (existence value).

The main issue within the construction of the hypothetical markets for CV is to specify a perceptible, relevant and plausible valuation object (Fischhoff and Furby 1988). Another key issue is to define an elicitation scheme to allow the exchange between the ‘good’ and the price individuals are willing to pay for it. In these hypothetical markets, the prices can be let open or can be fixed. In the former option, individuals have to offer a bid; and in the later they have to decide if they accept or not to pay the price offered. This last elicitation scheme, usually called dichotomous choice (DC), is similar to the ordinary markets, where the individuals have to decide if they pay or not a fixed price for a certain good. Then, if the individual chooses to pay the price offered the researcher knows, based on economic theory, that the individual willingness to pay for that good is superior to the price offered (and that it is inferior otherwise).

The CV experiment used to obtain estimates for the non-market monetary benefits of the AD typical winescape<sup>3</sup> has been designed to value changes in two attributes of the winescape: (1) The ‘rural heritage’, associated with the old vineyards; (2) and the ‘nature-related’ attributes, including Mediterranean bushes and olive-yards. The baseline level for the changes was defined as a winescape state corresponding to a large expansion of modern vineyards (representing more than 75% of the area depicted), where the typical attributes had foregone.

In the survey, individuals had to choose between the baseline, offered at zero price, and to pay to preserve the typical attributes. These were offered to the individuals by three alternative conservation programmes: (1) the Full Conservation programme (FP), designed to assure the maintenance of both ‘rural heritage’ and ‘nature-related’ attributes; (2) the Rural Heritage Conservation programme (PH), addressing only the preservation of the ‘rural heritage’ attributes; (3) the Nature Conservation programme (PN), intended to preserve the “nature-related” attributes.

The contingent transactions were defined through a dichotomous choice elicitation scheme (DC), and two payment vehicles were considered: (a) an increase in the annual income tax paid by the respondent household; (b) a ‘touristic tax’, specified as levy over the ticket of boat cruises. The former addressed the individuals contacted by the interviewers when were visiting the villages and other spots, whereas the later was included in the questionnaires administrated to the boat trippers.

## 4. Results

This section discusses the results obtained from both the qualitative and the quantitative survey. It starts with a brief presentation of the tourists profile for the sample interviewed in the quantitative survey. Then the results discussion begins with the tourist’s destination image and motivation for visiting, followed by their perceptions and preferences for the AD landscape. Finally, discussion focus on the estimates obtained to the monetary value (willingness to pay) ascribed by the tourists to the typical winescape preservation.

### 4.1. Respondents’ profile

Figures 1, 2 and 3 display the respondent’s distribution according categories to the variables age, level of education and area of residence. Figure 1 shows that respondents are almost equally distributed by the following age groups: less than 35, between 35 and 44, between 45 and 55, more than 55 years old. Nevertheless, the respondent’s average age appears to be around the 40-45 years old. The distribution of respondents according respective level of education shows also a considerable heterogeneity for this variable: 40 per cent of the respondents went on higher education, but almost the same percentage (37%) has a low education level. The respondent’s distribution by residence area show that the tourists come mainly from the Coastal areas, and that more than half of them come from the larger Portuguese conurbations, Lisbon and Porto cities and respective metropolitan areas. It is important to notice that foreign tourists are clearly under represented in the sample relative to the quantitative survey, what was due to logistical problems related to the interviewer’s recruitment. Therefore, the sample results for the quantitative survey report basically to the Portuguese tourists.

The data for the variables measuring the respondent familiarity with the AD region show that 2 in each 3 tourists had already visited the region previously to the present visit and that almost 70 per cent of these individuals had visited it 3 or more times. Therefore, these data suggest that Portuguese tourists are relatively familiarised with the region.

The information gathered about the characteristics of the visits evidenced two groups of visitors: (1) the boat trippers, undertaking organised boat cruises, which includes, in average, one night spent on the region; (2) Day trippers and holidaymakers (spending in average 2-3 days in the region). A stepwise binary logit model has been estimated to look for significant differences between these two groups of visitors. Estimates for this model are presented on Table 1. These estimates suggest that boat tripper experience a large contact with nature and

<sup>3</sup> A more complete description of this CV survey can be found in Madureira (2006).

landscape surrounding the river Douro and tend to undertake a small and less diversified set of activities in the region. This, apparently, smaller contact of boat trippers with the AD region might explain their worse evaluation of the region and landscape comparatively to the other group of visitors.

#### **4.2. Destination image and motivation for visiting**

Respondents were asked to choose the emotions that best describe their home environment and the destination, and results from this task are reported in Table 2, showing the proportion of visitors that picked out each emotion. The most striking finding is the negligible percentage of respondents attributing to the destination those emotions expected to be indicators of unpleasantness, confirming previous findings that destinations' affective assessment is in general favourable, and more favourable than cognitive images (Baloglu & Brinberg, 1997; Edwards, Fernandes, Fox, & Vaughan, 2000). Regarding the affect attributed to home environment, indicators of high arousal tend to be more frequently chosen. Indicators of high arousal represent 69% of responses for origin and 47% of responses for destination, while indicators for high levels of pleasantness represent 98% of references of destination and only 45% of references of origin.

On average, AD visitors more often attribute agitation related emotions to their home environment and, given that tourists tend to balance arousal by travelling to destinations whose images are in contrast to their perceived daily environments (Marques, 2005), we show in Table 3 the findings from a national sample of 1,700 potential visitors, who have very favourable expectations on benefits related to tension reduction, and a worse position in relation to fun and excitement, compared to alternative coastal destinations.

Findings from these two different surveys, on site and at home, suggest that peacefulness is the main expected emotion for paying a visit to AD, which is in line with pattern of motivations to visit, reported in Table 4. The two most elicited motivations directly relate to nature, as opposed to an urban (unnatural) daily environment. Seeking new experiences and socializing are quite less important than being close to nature and chilling out. These findings on the dominant motivation, combined with the peaceful image and the striking high levels of pleasantness attributed to AD, may indicate that current visitors are not particularly demanding in terms of recreational facilities nor particularly threatening the preservation of landscape and heritage. In other words, they potentially exhibit high destination-fit (Kastenholz, 2004). In fact, a study included in the same research project (Marques & Hernández Maestro, 2005), showed that lack of facilities and some recreation services did not impact on tourists' satisfaction with their experience in AD.

#### **4.3. Tourist's perceptions and preferences for the landscape**

The respondent choices regarding the alternative winescape presented to them within the qualitative survey are displayed by Figure 4. It shows the respondents' preference for the typical patchwork winescape (*patch*). It was the first choice of a quarter of the individuals. This figure increases, respectively, to 50 and 70 per cent of respondents if one adds to the first choice, respectively the second and the third most preferred views. The view dominated by the old vineyards (*old2*), where these occupied around 75 per cent of the area displayed, was the first choice of almost another quarter of respondents. The third most preferred option was the view representing the present state of winescape (chosen by 16.5 per cent of the individuals).

Figure 5 shows the individual choices regarding his (her) less preferred alternative. It evidences the displeasure associated with the view representing the present state of winescape, which has been elected as the less enjoyed by 21.3 per cent of the respondents. The enlargement of bushes area to cover around 75 per cent of the area in the view is also rather disliked by the individuals (selected by 20.3 per cent as their less preferred).

The choices of the respondents showed they were able to distinguish the basic types of attributes which define typical winescape: (a) the rural heritage, associated to the old vineyards; (b) the nature-related attributes, represented mainly by the Mediterranean bushes. The presence of the modern vineyards was also clearly perceived. Individuals' choices suggest they value the typical pattern of AD winescape grounded on the cultural diversity, land partition and singular rural heritage elements.

Therefore, the main result of qualitative survey is that tourists perceive typical attributes of AD winescape and enjoy its typical arrangement. Preference for the patchwork winescape pattern (*patch*) appears to be associated to the individual's familiarity with region (5% significance level Chi-square independence test). Moreover, data from the quantitative survey indicates a positive association between the visitor familiarity with the region and a better evaluation of AD landscape.

#### **4.4. Willingness to pay to preserve the typical winescape**

The individual willingness to pay (WTP) by the three conservation programmes considered was estimated through a multi-attribute valuation function, specified to respect theoretical constraints, such as (1) WTP = 0 when attributes are not offered, (2) account for substitution effects in valuation (Hoehn and Randall, 1989;

Hoehn, 1991; Santos, 1998). Equation (1) presents the specification adopted to model the binary observations resulting from the individual dichotomous choices in the AD quantitative survey.

$$\begin{aligned} WTP(z_j, z_0, y_i) &= (z_j - z_0)' \beta + (1/2)(z_j - z_0)' B(z_j - z_0) + (z_j - z_0)' \mu(y_i - \bar{y}) + \eta \\ &= x_{ji}' \theta + \eta_{ji} \end{aligned} \quad (1)$$

The vector  $\theta$  includes all the parameters to be estimate ( $\beta, B, \mu$ ). It comprises the differences between target and baseline multi-attribute state of winescape,  $z_j - z_0$ , for the three conservation programmes valued, the individual income and the attributes interaction term. The individual income is expressed by the difference  $(y_i - \bar{y})$ , where  $\bar{y}$  is the mean of income in the sample. This multi-attribute equation has been estimated through the logistic censored regression proposed by Cameron (1988).

Table 5 presents estimates for the multi-attribute valuation function. Table 6 displays estimates for mean WTP and respective 95% confidence intervals. The estimates for multi-attribute valuation function show an acceptable goodness of fit and are theoretically valid. The mean WTP estimates demonstrate, in turn, a reasonable degree of reliability accounting for the relatively small number of observations used in the estimation of a discrete choice model. Besides, individuals showed to be aware of variations in the valuation scale from complete to partial conservation programmes. Thus, these results support a conclusion in favour of an acceptable quality of the estimates obtained in terms of its potential usefulness for decisional contexts related to the winescape management.

The monetary values estimate to the preservation of typical attributes of AD winescape are significant and are in line with evidence available for the valuation of other typical Portuguese rural landscapes (Santos, 1997; Madureira, 2001). The values of WTP for partial conservation programmes (*PH* and *PN*) indicate higher benefits from the ‘nature-related’ attributes comparatively to the ‘rural heritage’. Nonetheless the difference observed between its respective WTP estimates is not statistically significant. Hence, the visitors appear to ascribe a balanced value to the preservation of both typical attributes, which is coherent with their appreciation for the typical patchwork pattern of the AD winescape.

## 5. Conclusions

This research demonstrated that the tourists visiting the AD region perceive the ‘typical’ and the ‘modern’ attributes that define the present state of AD winescape. However, it also evidenced that tourists’ preferences highlight their perception of the typical features of the landscape – cultural diversity, land partition and singular rural heritage attributes. These features are portrayed by the typical patchwork winescape, which is the view most preferred by tourists. Other landscape views enjoyed by these individuals, either maintain those features, even in a different pattern due to the inclusion of a moderate proportion of modern vineyards, or accentuate some of them, namely the rural heritage attributes related to the old vines – the schist terraces and walls and the quickset edges surrounding the vines and the rural pathways. Moreover, both the expansion of modern vineyards and natural areas appears to be disliked by the majority of the tourists.

Tourists’ attitudes concerning the typical winescape demonstrated their interest for its preservation. More than half of these individuals were willing to pay a significant amount to preserve the typical winescape or at least part of its attributes. On the other hand, there is no significant difference between willingness to pay for the ‘rural heritage’ and for the ‘nature-related’ attributes. This might come out as an apparently surprising result, considering the importance generally assigned to the rural heritage represented by the AD winescape, but a three-fold explanation for this is suggested here. First, visitors’ motivations and the affective image of AD point to the prevalence of the expectation of peacefulness in an environment perceived as ‘close to nature’, opposed to the agitation related daily environment. Second, it is coherent with the tourist’s preference for the typical patchwork winescape, a blend of the ‘rural heritage’ and ‘nature-related’ attributes. Finally, data regarding tourists’ profile suggested that boat trippers had a more nature-oriented preferences pattern, maybe due to their longer contact with nature and landscape and shorter contact with the cultural and social features of the region.

A major conclusion of these results is that tourists visiting the AD region appear to be strongly interested in preserving the typical features of this area, namely its cultural and nature heritage. Their preferences and attitudes come out pretty tuned with the expert’s opinion that the typical patchwork winescape is the repository of a singular cultural and nature heritage, whose safeguard depends on a careful management of land use and the preservation of the traditional attributes of winescape – schist terraces and walls, cultural diversity and autochthonous vegetation. This synchrony between the visitor’s attitudes and the recommendations from experts (on the landscape management and nature conservation fields) shows that current tourists may be a target market well fitted to this rural destination. Therefore, in this case the tourism promotion may be envisaged as an allied to

the policies designed to preserve local heritage and a driving force to encourage sustainable development strategies for this area.

As proposed by Kastenholz (2004), «protective measures to maintain the original attractiveness and to guarantee sustainable tourism development» (p. 391) are main constituents of a careful target-marketing. The positive reinforcement of visiting AD has to be portrayed in relation to emotional expectations that must be consistent with a low activation affective image. Resources related to the tradition of grape growing and winemaking at this unique *terroir*, chiefly the winescape, seem to be suitable to build such sensory, intellectual and social expectations. The promotion strategy should not jeopardize the good position of AD as a rural destination with some culturally interesting features, but where visitors feel close to nature and away from the agitation of urban life, which means that AD must not compete on the benefits most associated with coastal destinations, namely fun and excitement related to night life, nor invest on facilities and infrastructure that could erode the value attributed to the landscape.

The challenge is to get tour operators, wineries, cruise carriers, accommodation providers, national tourism board and regional tourism promoters, to agree upon a synergistic communication mix (Laws, Scott, & Parfitt, 2002), when there are probably different expectations of these actors relative to the target-market. And it must not be forgotten that these assets related to the landscape, fundamental to the tourism demand, are out of the control from the tourism system, and that winegrowing activities to increase profitability tends to change the landscape in an opposite way to the one desired by the tourists.

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Table 1 – Estimates for stepwise binary logit model with type of visitor as dependent variable  
 Dependent variable = type of visitor (y = 1 if respondents is a boat tripper; y = 0 otherwise)

Variables	Estimates
Boat	4.977***
(undertaking boat cruise)	(0.697)
Hike	-1.542***
(undertaking walks)	(0.388)
Visitvil	-0.869**
(visiting villages)	(0.375)
VisitQ	-1.053***
(visiting 'quintas')	(0.405)
Winet	1.317***
(wines tasting)	(0.379)
Buylocal	-1.217***
(Buy local products)	(0.343)
Maventure	2.170***
(Motivation: new adventures)	(0.621)
Mnewexp	1.262***
(Motivation: new experiences)	(0.443)
Reginter	-1.269***
(Find region interesting)	(0.387)
Regrelax	-0.948***
(Find region relaxing)	(0.356)
Lgroup	1.205***
(Visiting with large parties)	(0.387)
Landsbest	-0.761**
(find landscape the best or better than other)	(0.344)
Asp1_veg	2.559***
(vegetation is preferred aspect of landscape)	(0.54)
Asp1_nature	1.762**
(nature is preferred aspect of landscape)	(0.923)
Asp1_patrim	2.202***
(rural architecture pref. aspect of landscape)	(0.857)
Age	0.031***
(Average age)	(0.012)
Arousal	-0.776*
(Level of stimulation)	(0.434)
Constant	-2.878***
	(0.979)
No. Observations	516
-2Log-likelihood	299.557
Correct predictions (%)	86.4

Notes: Standard errors appear in parenthesis. \*, \*\*, \*\*\* denote significance at 10%, 5% and 1% levels respectively.

Table 2 – Affective images of origin and destination (per cent)

	Origin	Destination
Restless	52	1
Distressing	46	0
Tense	30	0
Interesting	33	78
Exciting	18	44
Lively	26	16
Safe	24	20
Refreshing	19	55
Relaxing	13	79
Dull	14	2
Boring	14	1
Sad	8	1

Table 3 – Assessment of AD image

Motive	Relative score
Be calm	5,67
Relax	4,17
Escape routine	2,26
Learn new things	1,56
Do exciting things	0,75
Have fun	0,42

Table 4 – Motivations to visit AD (per cent)

Enjoy natural environment	64
Know nature	56
Get rid of stress	36
Escape demanding life	36
Know countryside	32
Spend more time with friends	25
Seek new experiences	13
Do nothing at all	12
Meet people	8
Seek adventure	8

Table 5 – Estimates for the multi-attribute valuation function

Variables	Total respondents
<i>PH</i> (“rural heritage” attributes)	33.718*** (8,7503187)
<i>PN</i> (“nature-relate” attributes)	33.863*** (9,73180306)
<i>PH</i> x <i>PN</i>	-20.935** (10,2891396)
<i>PH</i> x <i>y</i> ( <i>y</i> - individual income)	0.00870*** (0,00339191)
<i>PN</i> x <i>y</i> ( <i>y</i> - individual income)	0.0113*** (0,00372576)
<i>k</i> (dispersion parameter of logistic distribution)	32.795*** (3,53034242)
No. Observations	630
Log-likelihood	-295.7584
Correct predictions (%)	77.9

Notes: Standard errors appear in parenthesis. \*, \*\*, \*\*\* denote significance at 10%, 5% and 1% levels respectively.

Table 6 – WTP estimates (values are in Euros)

Winescape attributes	Total respondents
“rural heritage” and “nature-relate”	93.75
(FP - full conservation programme)	(78.74, 108.81)
“rural heritage” only	54.28
(FH - partial conservation programme)	(41.93, 66.63)
“nature-relate” only	60.43
(FN - partial conservation programme)	(46.23, 74.64)

Note: 95% confidence intervals appear in parenthesis.

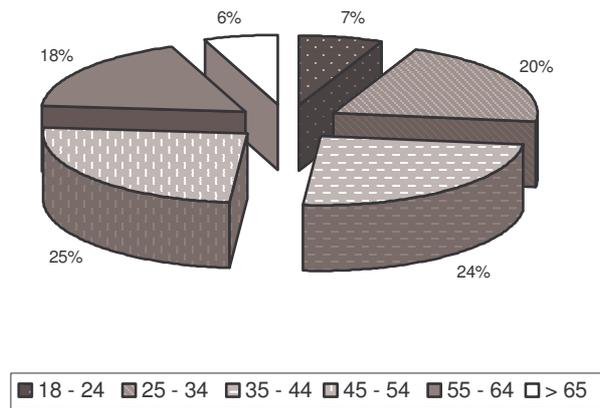


Fig. 1 - Distribution of respondents by age groups

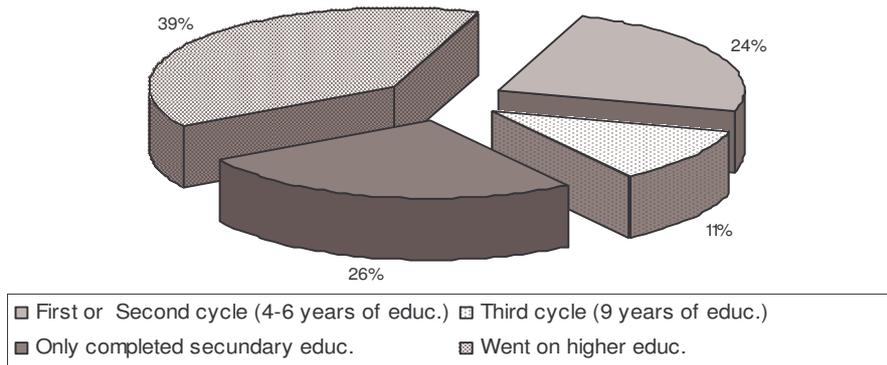


Fig. 2- Distribution of respondents by levels of education

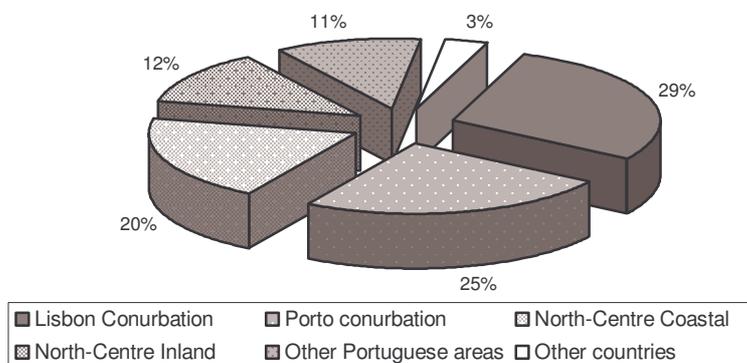


Fig. 3 - Distribution of respondents by residence areas

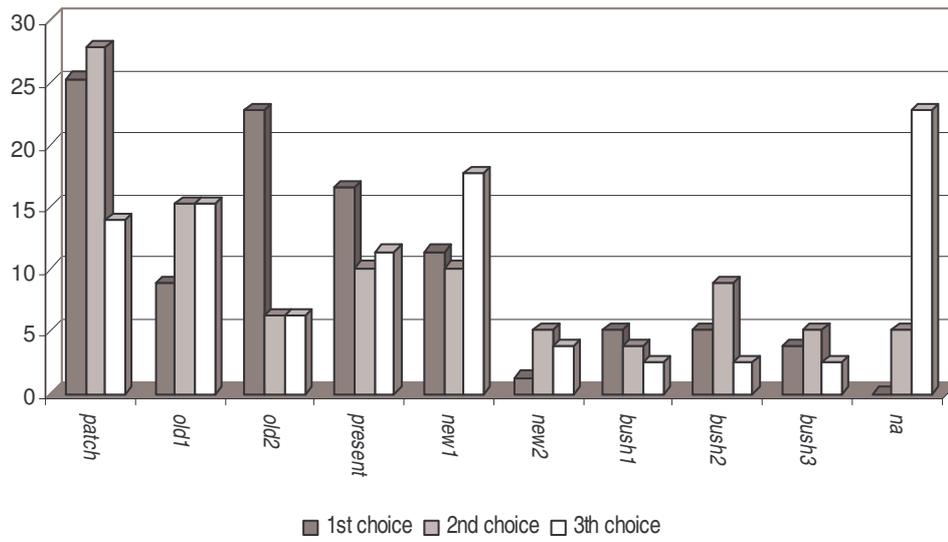


Figure 4 – Tourist’s choices regarding the alternative winescape states (expressed by the respondent’s percentage that choose it respectively as first, second and third preferred)

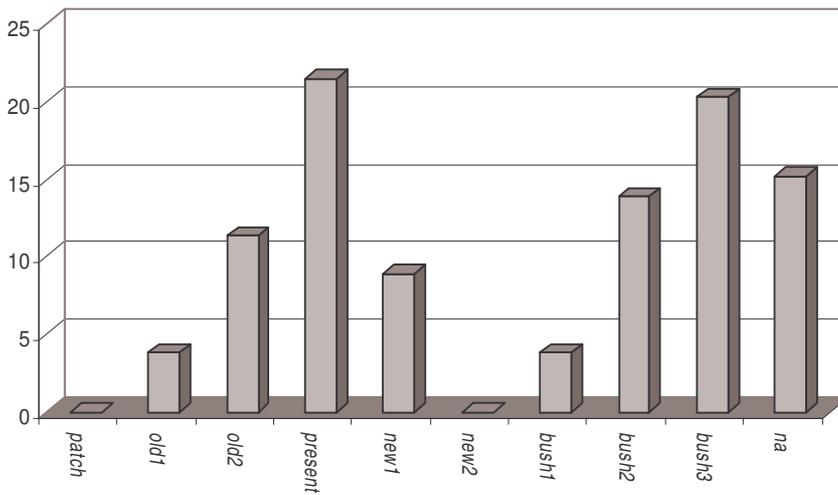


Figure 5 – Tourist’s choices regarding the alternative they less appreciated from respective choice set