Residents' perceptions of tourism activity in a rural North-Eastern Portuguese community: a cluster analysis

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Abstract. The recognition of the role of tourism planners in seeking to contribute to local residents' well-being by mitigating the potential costs of tourism development has been given more attention in the last decades. Several studies on the perception of positive or negative impacts, based on sustainability (namely the three pillars: economic, sociocultural and environmental) have been developed. However, the studies have been somewhat limited in terms of approaches, namely with respect to the contribution and participation of stakeholders. In this study, we attempted to use a bidirectional analysis of involvement and tourism knowledge to segment the residents and analyse their perception of the impacts. A total of 373 valid surveys were applied in a rural mountainous municipality (Boticas) during 2015 and 2016. In this municipality, tourism (activity) is an emergent activity. The results show that more informed and more involved residents have more positive perceptions of tourism than other groups, while less informed and less involved residents have more negative perceptions of it. The study contributes to increasing the knowledge about residents' perceptions of tourism, adding the aspects of involvement, especially in rural areas. This type of proposal can be applied to any destination to help manage residents' opinions and, consequently, their support of tourism development.

Contents:

1. Introduction

The use of the term "residents' perceptions" is widespread in the literature (Ap, 1992; Byrd, Bosley, and Dronberger, 2009; Vareiro, Remoaldo, and Cadima Ribeiro, 2013; Garau-Vadell, Díaz-Armas, and Gutierrez-Taño, 2014), although other authors use the expressions "attitudes" (Andereck and Vogt, 2000; Ribeiro, Valle, and Silva, 2013; García, Vázquez, and Macías, 2015; Davis, Allen, and Cosenza, 1988; Williams and Lawson, 2001) or "reactions" (Jurowski, Uysal, and Williams, 1997; Fredline and Faulkner, 2000). Regardless of the use of all types of terms and their semasiology, what most studies show is that residents are reassessed according to their role in direct, indirect, undetermined or induced impacts of tourism in a particular territory.

Residents' perceptions are subdivided into two major approaches documented by Sharpley (2014): (i) an approach based on variable-identification tests that can determine or predict residents' perceptions and (ii) an approach based on the segmentation of the residents where it is sought to infer support for tourism. This topic has assumed a growing prominence in the research agenda of the last two decades, although some theoretical, methodological and empirical weaknesses coexist (Sharpley, 2014).

For these reasons, the research carried out tries to contribute to this debate, by discussing the repercussions of this sector of economic activity on the triad of economy, environment and society, both locally and regionally. The main objectives are to diagnose the perceptions of some stakeholders (institutional and resident agents) on the contribution of tourism as a driving force for rural development and to develop a model of public participation in tourism that makes it possible to stimulate networking and foster more sustainable practices. A self-administered survey was applied in 2016 to 453 residents, of which 373 were validated. On this research a cluster analysis was used following Sharpley's second approach, focused on the segmentation of residents and seeking to determine tourism support (Sharpley, 2014). The main results show that there is a positive perception of the impacts generated by tourism activity, although among these, three distinct groups can be distinguished: one more favorable (the optimists), the neutral ones (the moderately optimistic ones) and the ones with the most negative positions (the indifferent ones).

This article is segmented into a theoretical–practical matrix with application to a rural municipality of Portugal. In section two we follow the exploration of the residents' perceptions of tourism, and the evolution in terms of study of impacts and variables used in perceptions. The subsequent section corresponds to the discussion of the methods and data used. Section four focuses on the results; also, the conclusive notes are addressed in the last section.

2. Residents' perceptions of tourism

2.1. The impacts of tourism on local community and variables used in studies on residents' perceptions

The impacts of tourism activity have attracted great attention from researchers during the last 30 years (Lopes, 2016). The growing interest in these studies arises from the awareness that the development of tourism has positive and negative effects at a local level (Almeida-García et al., 2016) and that, on the other hand, the most negative perceptions about tourism often hinder its development and sustainability (Butler, 1980; Ap, 1992).

An holistic research framework contributes to the differentiation of the impacts of tourism into three groups: economic, socio-cultural and environmental, to which the negative or positive discernment of its effects is related (Remoaldo, Duque, and Cadima Ribeiro, 2015; Almeida-García et al., 2016).

However, if residents take positive benefits from tourism, they tend to have positive attitudes towards this economic activity (Nunkoo and Ramkissoon, 2011; García, Vázquez and Macías, 2015; Muresan et al., 2016). The evaluation of this group of impacts is generally positive, considering that most of the studies reveal a positive correlation between economic benefits and positive attitudes toward tourism (Dyer et al., 2007). This happens despite the fact that some residents perceive this activity as generating low wealth and low-quality jobs for workers in the industry (Johnson, Snepenger and Akis, 1994).

As regards socio-cultural characteristics, the customs, beliefs, values and habits of residents are the most affected domains (Lopes, 2016). The interaction between residents and tourists contributes to new opportunities in terms of cultural exchange, although in some situations feelings of anguish and pressure may arise, which weakens the socio-cultural identity (Almeida-García, Vázquez and Macias, 2015). Among the main elements that have had a positive influence on residents are the opportunities for leisure activities (Andereck and Vogt, 2000), the stimulation of cultural activities, increased interest in maintaining and preserving historical and archaeological sites and the increase in pride and cultural identity.

At an environmental level, tourism can also be the reason for protecting local resources, or, on the other hand, for causing it to deteriorate and become fragile. In some studies, residents recognise that tourism can significantly increase waste production (Remoaldo, Duque and Cadima Ribeiro, 2015) and pollution.

Residents' perceptions have been the subject of several studies, and those performed so far are mainly focused on the identification, measurement and comparison of variables. These comparisons aim, above all, to guide possible actions in tourism planning, based on the residents' responses (Sharpley, 2014; Almeida-García et al., 2016). Based on a wide variety of variables that have been discussed, identified and explored, several studies have sought to categorise variables into groups (e.g., Harrill, 2004; Deery, Jago and Fredline, 2012; Sharpley, 2014).

The Sharpley (2014) proposal is considered to be, in our view, the most clairvoyant since it points out the variables within the dichotomy between extrinsic and intrinsic factors proposed by Faulkner and Tideswell (1997). In this regard, the first dimension (extrinsic) integrates certain characteristics of the tourist destination, namely the stage and nature of the development, the relationship between tourists and residents, the seasonality and the type of tourists the place receives. The second (intrinsic) dimension comprises the aspects of the host community, namely socio-economic characteristics, involvement in the community, the period of residence and the proximity of the tourist activity to the area of residence.

Based on a direct relationship between the tourist destination development and the increase of the economic exposure to this sector, there are very few relationships between the independent variables and the residents' perceptions. In addition, the residents' perception must always be weighed against the maximum criterion, simply because this type of study fails to particularise certain individual characteristics that are inherent to the resident. This follows from the fact that, in some types of studies, the segmentation of subsets of population samples may not be considered as a particularisation of the opinions of residents, but rather an approximation to the

compatibility of contiguous characteristics between them, in a pattern of disaggregation (Lopes, 2016).

2.2. Segmentation of subsets of population samples into residents' perceptions

The segmentation of the residents' perception is still maturing. A recent study by Nunkoo, Smith and Ramkissoon (2013) on resident perception studies published in the journals Annals of Tourism Research, Tourism Management and Journal of Travel Research between 1984 and 2010 pointed to the registration of 140 publications on residents' perceptions, 72.1% of which were of a quantitative nature. From this sum, 8% used the segmentation analysis of sample sets (vulgo clusters) as the preferred method of investigation. Nevertheless, it should be noted that most of the studies using this technique occurred after 2000.

There is a substantial theoretical framework for the segmentation of residents' perceptions about tourism development, using cluster analysis (Davis, Allen, and Cosenza, 1988; Fredline and Faulkner, 2000; McDowall and Choi, 2010). Table 1 summarises a series of studies on segmentation-based residents' perceptions, identifying the geographical location of the study, sample size, methods employed, and the subdivision of perceptions (longitudinal variation between negative and positive perceptions). As Sharpley (2014) points out, all 140 studies analysed reflect the contextual framework, objectives and instruments that are used for measurement.

In Portugal, studies that aimed to the segmentation of residents in accordance with their perception of the impacts of tourism are still very small, especially the study carried out by Vareiro, Remoaldo, and Cadima Ribeiro (2013) for the municipality of Guimarães, Portugal. Nevertheless, there are no studies of this type carried out in rural areas in Portugal that target residents in terms of perceiving impacts and developing the tourism and leisure industry.

3. Methods and data

3.1. Territorial Background

The municipality selected to implement this study was Boticas, which is located in the north-east flank of Continental Portugal and integrates NUTS III of Alto Tâmega and NUTS II of the North region. It comprises an area of 322 km2 (1.5% of the NUTS II North region).

Despite the reduction in the municipality's population, there is an attempt to promote tourism activity, in order to help attenuate that decrease. The construction of some equipment to enhance the activity in the territory is a consequence of this, including the Nadir Afonso Arts Center, the Terva Valley Archaelogical Park and the Boticas Park - Nature and Biodiversity, which came to agree with the lines defined in the National Strategic Plan for Tourism (PENT - Horizonte 2013–15) for the North region, in the municipality of Boticas.

Figure 1 shows the potential tourist resources of Boticas, namely archaeological heritage, civil heritage, natural heritage-landscape and religious heritage.

One of the predominant characteristics in the municipality of Boticas is its connection with proto-history and, in turn, the existence of vestiges of "castros" (Fig. 2A). Among the main contributions of the medieval period are religious buildings, depending on the relevance assumed for the local communities and the construction techniques used in this period (Fig. 2B). From this period between the tenth and twelfth century, there are still several vestiges intrinsic to funerary practices: graves and anthropomorphic sarcophagi (Fig. 2C). Nevertheless, the mountains have conditioned, through the centuries, the communication routes and the passage of the roads through the centre of the municipality, which was crossed by one of the main links to Braga, Bragança, and towards Chaves, as evidenced by the existence of bridges such as the Pedrinha bridge over the Beça River, one of the largest medieval bridges in the Barroso region (Fig. 2D).

In this municipality, the natural heritage has always remained stable, based on an economy of agricultural development.

Table 1. Main studies on the segmentation of residents' perceptions

Authors (Year)	Case study	Sample size	Methods	Segmentation (residents' perception)				
				Positive				Negative
Davis, Allen and Cosenza (1988)	Florida (U.S.A.)	415 residents	Analysis of attitudes, interests and opinions using a survey via e-mail.	Lovers (20%)	Love 'Em for a Reason (21%)	In-betweeners (18%)	Cautious Romantics (21%)	Haters (16%)
fEvans (1993)	15 towns and cities of New Zealand	1485 residents	Survey by telephone.	Lovers (20%)		Controlled (32%)	Selfish (37%)	Haters (11%)
Ryan and Montgomery (1994)	Bakewell (United Kingdom)	Phase 1: 101 and Phase 2: 59 residents	Multi-phase random sampling: Phase 1 (delivery of surveys by hand) and Phase 2 (delivery of surveys to 101 respondents).	Enthusiasts (22%)			Middle-of the roaders (54%)	Cautious Supporters (24%)
Madrigal (1995)	Sedona (rural) (U.S.A.) and York (urban)	743 residents: 428 Sedona residents' and 315 York residents'	Analysis of independent variables (tax, planning, regulation and future issues) based on previous research by Perdue, Long and Allen (1990) through a survey.	Lovers (13%)		Realistic (56%)		Haters (31%)
Fredline and Faulkner (2000)	Australia (associated with an event designated Gold Coast IndyCar Race ')	350 residents	Analysis based on the study of Davis, Allen and Cosenza (1988). Face-to-face survey and administered questionnaire, in the urban area adjacent to the Gold Coast	Lovers (23%)	Concerned for a Reason (9%)	Realistic (24%)	Ambivalent Supporters (29%)	Haters (15%)
Weaver and Lawton (2001)	Tamborine Mountain (Australia)	492 residents	Analysis of the attitude of the residents towards tourism and their perception of extrinsic and intrinsic variables. Survey divided into 6 subsections. The survey was sent to a random sample of 1000 families.	Supporters (45%)		Neutral (51%)		Opponents (22%)
Williams and Lawson (2001)	Auckland, Blenheim, Christchurch, Hokitika, Kaikoura, Napier, Queenstown, Rotorua, Taupo and Whangarei (New Zealand)	1062 residents	Application of a survey with 48 items for the perception of opinion about tourism. Pre-test with 248 marketing students from the University of Otago, New Zealand.	Lovers (44%)	Tax-payers (25%)		Innocent (20%)	Cynics (10%)

Source: Based on Lopes (2016)

Table 1. Main studies on the segmentation of residents' perceptions (Conclusion)

Authors (Year)	Case study	Sample size	Methods	Segmentation (residents' perception)		
				Positive		**Negative**
Thyne and Lawson (2001)	Southern Lakes Region (New Zealand)	1094 residents	Application of survey sent to each location based on population size	Lovers (14%)	Self-Interest Supporters (30%)	We Miss Out (40%) Critics (16%)
Andriotis and Vaughan (2003)	Heraklio, Chania, Rethymno and Agios Nikolaos – Crete (Greece)	194 residents	Application of a survey with 44 questions. The surveys were distributed in 400 homes.	Advocates (42.5%)	Socially and Environmentally Concerned (39.5%)	Economic Sceptics (18%)
Pérez and Nadal (2005)	Balearic Islands (Spain)	791 residents	Application of a survey based on the work of Williams and Lawson (2001). Subdivided into 5 parts, which sought to assess residents' position on the impacts of tourism, the pursuit of tourism policies, general themes on crime, environmental and unemployment issues and the effects of tourism on well-being.	Development supporters (11%)	Prudent Developers (26%) Alternative Developers (18%)	Ambivalent and Cautious (24%) Protectionists (20%)
Brida, Osti and Barquet (2010)	Folgaria (Italy)	295 residents	Use of a questionnaire/survey of a random sample of resident households.	Development supporters (27%)	Environmental supporters (40%)	Ambivalent (19%) Protectionists (14%)
Vareiro, Remoaldo and Cadima Ribeiro (2013)	Guimarães (Portugal)	400 residents	Application of a survey by convenience sampling. Distribution of the survey by four public secondary schools and a vocational scool. The survey has 25 questions in its entirety.	Enthusiasts (42%)	Moderately optimistic (40%)	(Sceptic)Sceptics (19%)
Ribeiro, Valle and Silva (2013)	Tarrafal, Praia, Sal, S. Vicente and S. Filipe (Cape Verde)	492 residents	Application of a survey divided into three parts, with the inclusion of several variables to measure residents' perception of tourism.	Optimistic (55.6%)	Rational (17.6%)	Indifferent (26.8%)

Study	Location	Sample	Methodology	Categories
Presenza, Del Chiappa and Sheehan (2013)	Termoli (Italy)	736 residents	Analysis based on an inquiry developed in Italian. Survey by online questionnaire and distributed by university students.	Activists (38.9%), Favorers (17.8%), Disenchanted (23.6%), Opposers (19.7%)
Šegota, Mihalič and Kušćer (2016)	Bled (Slovenia)	329 residents	Analysis based on a survey distributed in two different ways: survey sent online and through local newspaper. 167 were returned by mail and 162 were completed online.	Responsible citizens (15.5%), Uninformed activists (5.8%), Passive observers (21.9%), Unaware residents (56.8%)
Stylidis (2018)	Eliat (Israel)	341 residents	Application of a survey distributed between November 2012 and March 2013. The sample consisted of adults over the age of 18 who are permanent residents. 368 out of the 580 initially approached participated in the study.	Nature Aesthetes (49%), Appreciators (33%), Critics (18%)

Source: Based on Lopes (2016)

3.2. Drawing of data collection technique

The present work is part of a broader project, where it was decided to use techniques of a quantitative and qualitative nature, that is, to achieve a methodological triangulation (Hussein, 2015).

In quantitative research, a survey with 26 questions structured in 5 sections was used for the data collection. We opted for the use of closed questions and only one open question (optional). The questionnaire was oriented according to a conventional structure, starting from questions of global scope to questions of local scope (top-down). The questionnaire was structured in 5 sections (A–E). We opted for the use of closed questions, whereas only one question (optional) was open in form. Section A aimed to understand the citizen's opinion of his county, as well as the degree of belonging and identification with the community. Section B was concerned with how the resident perceived tourists and the places that he viewed as facilitating their presence. In section C we aimed to assess their opinion about the development of tourism for Boticas.

The analysis of residents' perception began with the item "Tourism is good for Boticas", which indicates the resident's degree of acceptance of tourism (Vareiro, Remoaldo and Cadima Ribeiro, 2013). The remaining issues in this section were aimed at understanding how tourism can be built for this area and the axes from which the initiative can begin. Section D aimed to understand if the respondent was available to participate in developing the tourist activity strategy for Boticas. Finally, some sociodemographic characteristics were asked (e.g., gender, age, education) (Section E).

The questionnaire was designed based on the focus group carried out in the previous period (2015), mainly contributing to the structuring of Sections C and D. In order to compare the results, Jurowski and Gursoy's (2004) investigations were used, among others, like those of Kim, Uysal and Sirgy (2013), Vareiro, Remoaldo and Cadima Ribeiro (2013), Stylidis et al. (2014) and Stylidis (2016).
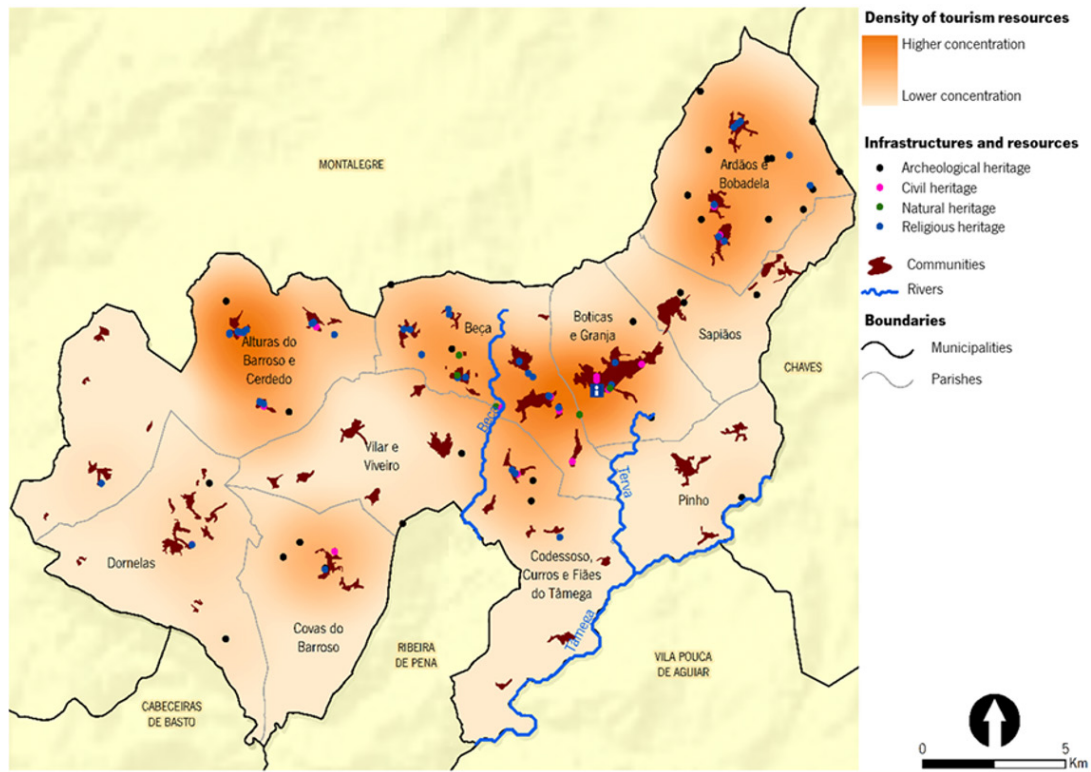
Fig. 1. Distribution of tourism resources in Boticas
Source: Own elaboration, based on Boticas Interactive Tourism Store, and the Boticas website Heritage with history "http://patrimonio.cmboti-cas.pt" and field work during 2016

Fig. 2. Some places of cultural and landscape-natural interest in the municipality of Boticas. (A) Castro de Carvalhelhos in Beça; (B) The parish church of Santa Maria in Covas do Barroso; (C) Anthropomorphic graves and sarcophagus in Sapiãos; and (D) "Ponte Pedrinha" in Beça
Source: Photographs taken by the authors: on March 23, 2016 (A and C); on May 23, 2016 (D) and on June 17, 2016 (B)

3.3. Collection and analysis of data

Considering that Boticas municipality residents were the focus of this study (universe), the sample consisted of all residents aged 15 years or older. The stratified sampling method was used in the study, rather than simple random sampling, considering that there is a greater probability of avoiding sample error (Cooper and Schindler, 1998; Zikmund, 2003).

The choice of the sample size considered several factors: (i) the population residing in the municipality; (ii) the spatial distribution of parishes in the municipality; and (iii) a balanced solution between the costs involved and the time required for carrying out the research (Gebremedhin and Tweeten, 1994).

A pre-test was conducted on December 5, 2015. Ten questionnaires were carried out and the average filling time was 18 minutes. Some changes were made to the questionnaire. The data collection took place between January 4 and May 28, 2016 (distributed personally at residents' homes) to a stratified sample (based on places of residence and demographic criteria) in Boticas, and 453 of the 737 questionnaires were collected. Thus, the response rate was 61.6%. Each questionnaire was subjected to a verification of its integrity and legibility of information. Through this process, 80 questionnaires were eliminated from the analysis due to the absence of the provision of important statements, which could bias the results obtained, especially during multivariate analyses. Thus, there were 373 questionnaires that were recorded in the SPSS software, version 22, for data analysis (which would represent 6.3% of the resident population in the municipality). The sample is representative for a confidence level of 95.0% and a margin of error of 5.0%. The volume of the sample is in line with what is used internationally, varying between 352 and 415 questionnaires (Vareiro, Remoaldo and Cadima Ribeiro, 2013).

3.4. Data analysis

The statistical analysis program SPSS 22 was used for the data resulting from this questionnaire, and the tools used were dependent on the type and characteristics of the data. Thus, the use of descriptive statistics was based on measures of central tendency (mean, mode and median), dispersion (minimum, maximum and standard deviation) and distribution (kurtosis and asymmetry). With the achievement of univariate statistical analysis, it was possible to identify some patterns related to the opinions expressed, segmenting them and comparing them with the sociodemographic characteristics of the respondents.

In this study, we chose to follow the technique of non-hierarchical clustering (cluster analysis k-means (Aguiló and Roselló, 2005; Brida, Osti and Barquet, 2010), considering that this technique is usually used for a set of items, rather than variables, and usually applies to larger data sets (≥200 cases – Brida, Osti and Barquet, 2010; Vareiro et al., 2013). The implementation of a step-by-step methodology was followed, making it possible to train between 2 and 5 groups, taking into account the averages of the sixteen items of tourism impacts (question 6 of the questionnaire used).

Table 2 shows the sample percentages in each group and for a set of groups (between two and five). If four or five groups were chosen, minority groups would account for less than 2% of the sample, and may contribute to the bias of the results to be obtained.

In our case study, we chose to select three clusters, in order to guarantee the integrity of the data. The average distance of each resident from the centroid of the cluster made it possible to compare the intragroup variability, while based on the distance between the centroid of the fragmentation it was possible to measure the intergroup variability. The data contributed to the identification of clusters with high levels of dissimilarity (Table 3).

4. Results

A brief sociodemographic and professional characterisation of respondents is presented in Table 4. In the sample, 45.0% of the males and 55.0% of the females were enrolled in the study, following other studies, which women tend to be more receptive to participating in (Sharma and Dyer, 2009; Vareiro et al., 2013; Stylidis et al., 2014). Regarding the distribution of the sample by age group, 35.7% were

Table 2. Percentage of sample in each group

Cluster	Number of groups			
	2	**3**	**4**	**5**
1	40	20	42	37
2	60	33	1	10
3	-	47	34	29
4	-	-	23	23
5	-	-	-	1

Source: Self-administered survey of residents of the municipality of Boticas between January and May 2016

Table 3. Intra and intergroup variability

Cluster	1	2	3
1	2,897	-	-
2	3,372	3,395	-
3	3,872	4,455	2,698

Note: The average distances between each resident and their cluster are in italic (intra-group variability) and the distances between the centroids of the clusters are without italic (intergroup variability) in the Table.

Source: Self-administered survey of residents of the municipality of Boticas, between January and May 2016.

between the ages of 45 and 64 and 30.0% between 25 and 44. The age group of 65 and older accounted for a high percentage (25.5%) of the sample. In terms of work situation, respondents had an occupation in 34.9% of cases, of which 39.2% had an occupation directly or indirectly related to tourism. However, pensioners also held a significant position among respondents (28.4%).

Most of the residents surveyed had lived in the municipality of Boticas for more than 15 years. 53.9% had a level of education of fewer than 6 years. Respondents were predominantly employed and, in terms of marital status, 57.4% of the respondents were married, while the predominant monthly net income was between €501 and €1,000 (43.2%). It can be concluded that the sample comprised essentially middle/lower and middle-class individuals.

Table 5 shows the difference between surveyed residents (from the sample) and residents characteristics (the municipality – corresponding to the universe). Concerning the distribution of the sample by age group, 8.8% were aged between 15 and 24 years, 30.0% between 25 and 44 years, 35.7% between 45 and 64 years, while the age group of 65 and older accounted for 25.5% of the respondent sample. In fact, the sample had a lower number of individuals

aged 65 years and older than did the municipality (9.7% less). This is mainly due to the fact that older people travel less frequently into the street and there may have been a greater aging of the population since 2011 (the last Population Census in Portugal).

The main results obtained on residents' perception of the impacts of tourism were categorised by type of impact (economic, sociocultural and environmental – Table 6). In this respect, there is a general perception among residents that tourism has a positive impact on the local economy (an average of 4.08 on a five-level Likert scale) and on the socio-cultural domain (3.86) and negative impacts on the environment (3.25). Tourism is considered positive in terms of job creation (4.30), local culture and handicrafts (4.29), income generated by the local economy (4.27) and leisure and leisure opportunities (4.23). Likewise, the development of tourism activity/activities in the municipality is considered negative in terms of the increase in (increasing) the amount of waste (3.20), as well as (increasing) noise ratios (3.30).

In Table 6, 1 and 2 were grouped because they represent negative perceptions; so too were 4 and 5 because they represent positive perceptions.

Table 4. Sociodemographic and professional profile of surveyed residents

Variables	Number	%
Gender		
Male	168	45.0
Female	205	55.0
Age		
15–24	33	8.8
25–44	112	30.0
45–64	133	35.7
65 and more	95	25.5
Residence (Parish)		
Alturas do Barroso e Cerdedo	26	7.0
Dornelas	18	4.8
Covas do Barroso	30	8.0
Vilar e Viveiro	34	9.1
Beça	55	14.7
Boticas e Granja	81	21.7
Codessoso, Curros e Fiães do Tâmega	41	11.0
Pinho	17	4.6
Sapiãos	47	12.6
Ardãos e Bobadela	24	6.4
Length of residence		
<5 years	13	3.5
5–10 years	9	2.4
11–15 years	17	4.6
>15 years	334	89.5
Education		
Fewer than 6 years	201	53.9
7th–9th years	52	13.9
10th–12th years	69	18.5
Higher education	51	13.7
Employment status		
Domestic	43	11.5
Unemployed	72	19.3
Employee	130	34.9
Retired	106	28.4
Student	22	5.9
Marial status		
Married (with or without registration/ union of fact)	214	57.4
Not married	93	24.9
Divorced	23	6.2
Widower	43	11.5
Family income (monthly)		
Up to €500	125	33.5
From €501 to €1000	161	43.2
From €1001 to €2500	73	19.6
From €2501 to €3000	10	2.7
More than €3000	4	1.1

Source: Self-administered questionnaire/survey of Boticas municipality residents between January and May 2016

Table 5. Sociodemographic and professional profile of surveyed residents

Characteristics	Gender (%)		Age (%)		
	Male	Female	15–24	25–64	65+
Residents	48.4	51.6	9.7	55.1	35.2
Sample	45.0	55.0	8.8	65.7	25.5
Difference between residents and sample	-3.4	3.4	-0.9	10.6	-9.7

Table 6. Residents' perceptions of the impacts of tourism

Item	Mean	Standard Desviation	Answers (Percentage)		
			1 and 2	3	4 and 5
Economic impacts	4.08				
Job creation	4.30	0.741	3.2	10.2	87.1
Revenues generated by the local economy	4.27	0.733	2.6	7.2	90.1
Residents' income	3.89	0.954	9.3	14.5	76.1
Investment in restaurants, hotels and shops	4.20	0.772	3.5	8.0	88.5
Cost of living	3.73	1.027	14.2	19.3	66.5
Sociocultural impacts	3.86				
Quality of public services	3.98	0.935	7.3	14.7	78.0
Entertainment and recreation opportunities	4.23	0.714	2.1	7.8	90.1
Conservation of historical and cultural resources	4.18	0.826	4.5	6.4	89.0
Local culture and crafts	4.29	0.686	2.1	5.1	92.7
Contact with different cultures	4.20	0.748	2.6	10.2	87.0
Crime	2.88	1.201	44.0	24.8	31.4
Preservation of values, customs and traditions	2.97	1.257	42.6	17.2	40.2
Self-esteem of the local community	4.05	0.798	4.6	13.1	82.3
Quality of life of residents	3.96	0.941	8.3	14.7	77.0
Environmental impacts	3.25				
Excessive noise	3.30	1.191	26.8	56.0	44.0
Increase in the amount of garbage	3.20	1.242	34.0	20.9	45.0

Note: A five-level Likert scale was used, with 1 = totally disagree and 5 = fully agree
In Table 6, 1 and 2 were grouped because they represent negative perceptions; so too were 4 and 5 because they represent positive perceptions.
1 and 2 = disagree; 3 = Do not agree or disagree; 4 and 5 = agree

Source: Self-administered survey of Boticas municipality residents, between January and May 2016

Despite the differences between distinct parishes (geographical areas) of the municipality, the main ones occurred in the segmentation of individuals, regardless of their geographic location. This segmentation considered 16 items of tourism impacts, indicating the degree of agreement for each cluster. In fact, all the impacts presented a significant contribution to the definition of this segmentation (p<0.01). Although there were significant differences between them, the item "increased revenues generated by the local economy" contributed less to the

differentiation between the segments of individuals. After subdividing them into three clusters, the following characteristics were found (Table 6).

(i) Cluster I – Indifferent residents are the smallest group in the sample (20% of respondents). They hold a moderate position on the positive impacts of tourism activity and show less concern about the negative impacts of tourism. 74.7% of the residents of this cluster believe that tourism promotes local culture and crafts, and only 33.3% realise that it can help improve the quality of life of residents. At the

same time, 41.3% believe that the development of tourism activity can have repercussions on the increase in the price of goods, services and properties (cost of living).

The sociodemographic profile of the residents included in this cluster includes individuals with lower schooling (≤6th year – 49.3%, 7th–9th year – 21.3%), when compared to the other clusters.

(ii) Cluster II – Moderately optimistic respondents account for 33% of the respondents. These respondents are more convinced of the benefits of tourism activity, although they also have some awareness of the negative impacts resulting therefrom. Globally, 98.4% agree that tourism is responsible for creating jobs, increasing revenues generated by the local economy and conserving historical-archaeological resources. In addition, all respondents are aware that tourism contributes to the appreciation of the local culture and crafts. This cluster comprises a group of respondents who believe that the development of tourism in the short and medium term can represent an increase in the cost of living (91.1%) and an increase in the amount of waste generated (91.9%). This is effectively the segment of residents with more balanced views on occupation, including a higher percentage of respondents with low levels of schooling and individuals with income up to €500 per month. In addition, it is also composed of a higher percentage of respondents residing in parishes classified as PRA (Predominantly Rural Areas) according to TIPAU (Typology of Urban Areas), when compared to the others.

(iii) Cluster III – Optimistic residents constitute the largest cluster (47% of the sample); that is, they represent most of the respondents. As a result, cluster II, which had very positive opinions about the positive impacts of tourism, also shows that 95.4% of the respondents in this segment agree that the increase in tourism activity in the municipality can contribute to the valorisation of local culture and handicrafts. However, these do not consider the costs that can come from the tourist industry. As an example, residents in this segment do not agree that tourism can increase crime (1.8%) or the amount of waste on the streets (8.7%). However, in terms of the consequences generated on the economy, more than half of these are aware of the rise in the cost

of living (59.8%). As for the demographic profile of these respondents, those with a qualification level of 6 or fewer years (common to all others) predominate, even though it also includes a percentage of individuals with higher qualification levels when compared to the other clusters. It should also be noted that, on a professional level, employed and retired residents are the most representative of this segment of residents.

It is understood that among the three clusters it is not possible to identify significant differences as to gender, age and occupation in the tourism sector and the length of residence in the municipality.

5. Discussion and conclusions

The degree of satisfaction of the individuals with the community in which they reside is determined by the way they perceive the positive and negative impacts of tourism development, as evidenced by studies by Vargas-Sánchez et al. (2009) and Nunkoo and Ramkissoon (2010). The same results were found in the municipality of Boticas, where the most favourable opinions result in more positive evaluations of tourism impacts. Residents' perceptions indicate that tourism planning and development in Boticas should focus on improving services, public transport and road infrastructure. Regarding the potential of residents' personal benefits, the results showed a positive relation with the perception of impacts. These results are in accordance with the "Social Exchange Theory (SET)" (Pizam, 1978; Perdue, Long, and Allen, 1990; Madrigal, 1995), by concluding that residents are more likely to react and perceive the impacts more positively than those who do not derive any benefits from this activity.

The development of tourism activity must follow a clear consultation with the residents, considering that the communities have different needs. While some seek to increase jobs, others are interested in improving leisure and recreational infrastructure or equipment.

In addition, other analyses can be used based on insights drawn from various methods, ei-

Table 7. Impacts of tourism perceived in Boticas in the three clusters (percentage of agreement and average scores)

Item	Cluster I, n=75 (20%)		Cluster II, n=124 (33%)		Cluster III, n=174 (47%)		F-ratio	P-value
	Agree (%)[a]	Mean score	Agree (%)[a]	Mean score	Agree (%)[a]	Mean score		
Benefits								
Job creation	72	3.63	98.4	4.59	94.3	4.27	53,130	0.000**
Revenues generated by the local economy	73.3	3.72	98.4	4.60	91.4	4.28	40,511	0.000**
Residents' income	32	2.87	90.3	4.33	85.1	4.02	83,693	0.000**
Investment in restaurants, hotels and shops	68	3.59	97.6	4.54	90.8	4.22	44,046	0.000**
Quality of public services	38.7	3.09	89.5	4.34	86.8	4.11	58,277	0.000**
Entertainment and recreation opportunities	62.7	3.53	96	4.48	96.6	4.35	59,967	0.000**
Conservation of historical and cultural resources	60	3.36	98.4	4.54	94.8	4.28	68,221	0.000**
Local culture and crafts	74.7	3.71	100	4.59	95.4	4.33	49,396	0.000**
Contact with different cultures	64	3.60	95.2	4.47	91.4	4.27	39,712	0.000**
Self-esteem of the local community	46.7	3.27	93.5	4.43	89.7	4.13	69,492	0.000**
Quality of life of residents	33.3	2.99	95.2	4.40	82.8	4.07	77,730	0.000**
Costs								
Cost of living	41.3	3.15	91.1	4.32	59.8	3.55	43,459	0.000**
Crime	25.3	2.93	76.6	4.06	1.7	2.01	248,004	0.000**
Preservation of values, customs and traditions	24	2.75	77.4	3.90	20.7	2.41	71,421	0.000**
Excessive noise	45.3	3.35	85.5	4.33	13.8	2.54	145,372	0.000**
Increase in the amount of garbage	52	3.45	91.9	4.35	8.6	2.27	234,203	0.000**

Note: *Percentages of those who agree integrate answers 4 and 5 into the five-level Likert scale. **p<0.01

Source: Self-administered survey of Boticas municipality residents, between January and May 2016.

ther qualitative (resulting from the application of semi-structured interviews to associations and institutional leaders) or quantitative (surveys to visitors). It would also be relevant to apply a survey to guests in order to understand the dynamics required for the services and products offered in the region, and how satisfactory they are.

In this computation, it is proposed to carry out longitudinal studies, with a view to examining potential changes in residents' support for tourism development, mainly due to the economic changes that occur in the medium and long term, and the fact that in the coming years there will be the objective to form a tourism plan for Boticas. Therefore,

repeating such a study over a period of five or ten years would be fundamental to understanding what changes have occurred and which principles should guide future actions.

The results obtained in this investigation can have implications in the management of the territory.

(i) At the general level, regarding:
• Measures to consolidate local identity and enable regional and national interconnection;
• For organisational structures: local organisations, regulation (e.g., the importance of developing the protection of heritage by safeguarding its traditional characteristics) and investment policy (e.g., identification of some key products at strategies for attracting private investment);
• A proposal for a municipal tourism plan, as well as its articulation with the valorisation of tourism in its own government structures (e.g., through the creation of a department intrinsically related to tourism).

(ii) At the territorial level with:
• The definition of real and potential tourist uses of the whole territory, based on the grid of identified factors – tourism attractiveness, the nature of these resources (e.g., in categories of nature, archaeological) and accessibility to these resources;
• Development of an intra-day complementarity strategy to cover a range of alternatives to the various tourism segments;
• Ensuring the sustainability of the destination, through the implementation of measures based on the various expectations.

(iii) At the supply level, based on:
• The establishment of new anchor products and, among the existing ones, those that have potential;
• Guaranteeing a wide range of tourist attractions and services;
• Promoting the landscape arrangement and the preservation of all natural or built tourism resources located in key tourist areas;
• Defining a marketing and promotion strategy.

It should be noted, however, that while these are some of the necessary implications that are expected to emerge from the research undertaken, their content must be augmented and debated over time as something that evolves and changes.

Acknowledgments

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