Tourism and Ecologically Sensitive Areas: The Case the Prefecture of Preveza from Citizens' Point of View

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Abstract The immeasurable value and necessity of protecting and promoting the natural wealth that distinguishes a geographical unit demand the adoption and implementation of a multifaceted strategy, aiming to preserve and manage an ecologically sensitive area systematically and, by extension, to ensure the viable development of tourism. All this must be accepted by the citizens in order for changes to occur without people's complaint and protests. Under this assumption, the objective of this paper is to investigate the attitudes and beliefs of residents regarding ecotourism development in the Preveza prefecture, an area mainly characterized as Natura and Ramsar protected. It also reflects the citizens' beliefs regarding the possibility of developing modern forms of tourism activities near or within the environmentally sensitive area, in the light of a viable-sustainable development in the prefecture. In order for this to be accomplished, field research with the means of a questionnaire, developed especially for this reason, was undertaken. Sample involved 150 permanent residents of the Preveza prefecture from all three municipalities (Zirou, Parga, and Preveza) via mall-intercept personal interview. Thus, residents rated their point of agreement for tourism exploitation of nine nature-related attraction sites and seven modern forms of tourism activities within these nature attractions sites. Residents consider that alternative tourism (92.0%) and not mass tourism is indicated for the area and specifically in the form of ecotourism (94.5%) for sustainable development (86.4%) of the region. Regarding the nature-related point of interests which could be potential tourist attractions, locals consider all sites as potential tourist attractions, but the ones with the highest rate are Acheron river (delta) Alonaki Beach- Nekromanteion (necromancy, 93.9%) and the straits of Acheron river-Trikastro-Skala Tzavelena (91.7%).

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As to modern types of tourism, they rated biking and hiking-trekking as the best for the region (89.5%). Moreover, they consider that the responsible bodies for tourism development of Preveza, which should keep nature protected and unspoiled, are mainly the local authorities and operators (59.4%). The expected benefits of recording citizens' opinions and beliefs aim at rational regional planning and are very important. Results are discussed, and recommendations for implementation are provided.

Keywords Protected area • Tourism • Citizen's opinions • Preveza Prefecture • Marketing

1 Introduction

Climate change and extensive human land and water exploitation have resulted to degradation of ecosystems (UNDP 2012, p. 1), which lead to the development and implementation of frameworks and policies for their conservation, many of which were declared as sensitive protected areas, protecting them from further destruction. The International Union for Conservation of Nature (IUCN 1994) defines a protected area as "Area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means" (IUCN 1994, p. 18) and furthermore classifies protected areas in six categories based on their primary management objectives (IUCN 1994, pp. 28–35).

Additionally and on one hand, rural communities are more and more viewing the tourism sector as a foundation of their economic development (Leistritz 2006), and on the other hand, and on an individual level, traveling and tourism provide escape from everyday routines and problems and "fills the human battery" in order again to return to daily reality. The today's model of uncontrolled mass tourism and the difficulties resulting from this led to other milder tourism approaches, i.e., alternative tourism (Butler 1992). Alternative tourism as defined by Eadington and Smith (1992, p. 3) is "forms of tourism that are consistent with natural, social, and community values and which allow both hosts and guests to enjoy positive and worthwhile interaction and shared experiences." Thus, the structure and operation of new tourism standards are based on principles that respect the natural and structured environment of a region, its social cohesion, and cultural heritage (Crisman 2000). It is in this sense, the need for sustainable tourism emerged, which is the main pillar of the European Union policies (Pridham 1999) and is rooted in the concept of sustainable development (The International Ecotourism Society 2014).

Conservation of a protected area and community support are of high importance since Holmes (2013) found that residents may refuse to support, cooperate, or participate in conservation efforts or plans, so not only their positive attitude is needed but their active participation too (Bockstael et al. 2016; Xu et al. 2006). Consequently, the same applies to sustainable tourism development in protected

areas. Therefore, this research studies tourism development in the Preveza Prefecture, a prefecture with many areas or locations designated as protected areas.

2 Literature Review

Ecological sensitive areas have been studied extensively, with a great body of articles focusing on tourism research. Some of the issues researched are tourists' opinions about deficiencies or weaknesses as regards the protected area as a destination (e.g., Andrea et al. 2013a, 2014; Akhter et al. 2009; Beunen et al. 2008); tourists' willingness to pay for environmental conservation or tourism services in environmentally protected areas (Wong 2014; Wang and Jia 2012; Barnes et al. 1999); tourists' environmental attitudes (Ardoin et al. 2015; Packer et al. 2014); and motives to visit protected areas as tourist destination choice (Gundersen et al. 2015; Cheung and Fok 2014; Eagles 1992). Another body of research focuses on tourism development in protected areas (e.g., Bello 2015; Xu et al. 2009; Stone and Wall 2004; Manning 2002) and locals' attitudes toward tourism and environmental conservation and/or their benefits from protected areas (e.g., Gorner and Cihar 2013; Tomićević et al. 2010; Ezebilo and Mattsson 2010). Lastly, research concentrated on residents' perceptions, attitudes, and behavior on tourism development in protected areas (e.g., Nastran 2015; Jones et al. 2015; Tsantopoulos et al. 2013; Andrea et al. 2013b, c; Jones et al. 2012; Dimitrakopoulos et al. 2010; Pipinos and Fokiali 2009; Pavlikakis and Tsihrintzis 2006; Trakolis 2001; Christopoulou and Tsachalidis 2004). As to Greece and research on local residents and tourism in protected areas, Jones et al. (2015) investigated the social factors (trust in institutions, social trust, and social networks) on 367 citizens' perceptions influencing the level of acceptability for participatory management frameworks in two forest protected areas of Greece (the Tzoumerka-Peristeri-Arachthos Gorge National Park and the Vikos-Aoos National Park), as well as the restriction that citizens perceive from the implementation of such frameworks through field research via a questionnaire. Tsantopoulos et al. (2013) examined the attitude of stakeholders regarding the protection and conservation of nature and the development of the region, on a sample of local people ($n = 239$) of the Prespa Lakes National Park. Andrea et al. (2013b) investigated, among others, 264 local's opinions about the effectiveness of administration and management of the Dadia National Park, in the Evros Prefecture. Andrea et al. (2013c) studied the economic growth of gateway communities in the Amvrakikos Wetlands National Park by examining local people's views concerning the various characteristics of the broader area, their living standards, as well as the sectors they wanted existing and future developments to be based upon. Jones et al. (2012) explored the knowledge and perceptions of different interest groups, among which were local residents, concerning environmental issues in general, awareness of the restrictions imposed by the current management framework, benefits connected with the designation of the protected area, and willingness of individuals to pay for

protection of the National Park of Eastern Macedonia and Thrace. Dimitrakopoulos et al. (2010) explored the perceptions and awareness of 390 citizens in three protected areas of Greece (National Park of Eastern Macedonia and Thrace, the Wetland of Kalloni, and Lake Tavropou) on environmental issues and alternative management scenarios for the conservation of biodiversity, while differences between the three research areas were also explored. Pipinos and Fokiali (2009) studied the extent to which the residents of the region of Northern Karpathos and Saria in the southeast corner of the Aegean (both included in the European Ecological Network Natura 2000) have positive attitudes and perceptions toward ecotourism ventures for sustainable development. Specifically, they investigated the degree of awareness and sensitivity regarding environmental conservation issues in the area, the need for environmental education concerning ecotourism activities, and the attitude toward the implementation of initiatives in the ecotourism field aimed at their empowerment and at promoting sustainable development in the area. Pavlikakis and Tsihrintzis (2006) investigated the opinions of residents in Eastern Macedonia and Thrace National Park in Greece, with focus on their knowledge about the ecosystem area, their activities in the park area, their opinion about the ecosystem assets and services, and their perceived importance for the ecosystem inhabitants, e.g., regarding people's income and landscape aesthetics and ecological value. Also, they researched their willingness to pay an amount of money, once a year, for the protection, restoration, and management of the ecosystem and willingness to be informed about the ecosystem and participate in the decision-making process. Christopoulou and Trizoni (2005) explored the opinions of the local communities in the region of Pelion (Natura 2000), with regard to zoning and planning; scenarios for future planning and zoning and the desirability/undesirability of their outcomes; the problems regarding the implementation of Natura 2000; the desired Natura 2000's outcomes as considered by locals; and their suggestions on how these targets could be achieved as well as how to solve local problems. Christopoulou and Tsachalidis (2004) studied local residents' attitudes regarding the ways of management and exploitation of the wetlands and their sociological features, using the opinion poll method where 1600 questionnaires were distributed in 32 communities neighboring four Ramsar wetlands in Northern Greece. Trakolis (2001) investigated using a systematic sampling of 201 residents' perceptions regarding issues related to planning and management of Prespes Lakes National Park in northwestern Greece, 24 years after designation.

3 The Preveza Prefecture: Aim and Objectives

Tourism for Greece is one of the main pillars of economic growth, especially today being under the surveillance of the Troika. This is more intense for the region of Epirus, which is the most alpine and relatively isolated region in the country, with the population depleted by migration: only 3.1% of the country's population lives in the region (European Parliament 2011). According to Balourdos (2007), in comparison with the rest of the country, poverty and economic inequality, in general, is

significantly higher in the Epirus region. Also, according to the European Parliament (2011), the service sector in Epirus dominates the regional economy and accounts for 69.7% of the regional GDP, with the tourism sector and trade being the most prominent with significant growth potential. Epirus region has four regional unities: the prefectures of Arta, Thesprotia, Ioanninon, and Preveza (Region of Epirus http://www.php.gov.gr/ 2017). In the greater Epirus region and particularly in the southern part of the Preveza Prefecture, habitats of significant value, such as the Amvrakikos Gulf, the estuaries and straits of Acheron river, and the coastal sea from Parga to Agios Thomas, are identified (Official Gazette 1451/6-10-2003). Tourism development that has taken place in the region is still very low, which is in complete contrast to the tourist demand of the region which has developed in the recent years.

A significant number of areas of the region of Preveza are included in the lists of sensitive and protected territories, having as a main criterion for inclusion its ecological and aesthetic value. Their protection is based on the already existing institutional framework (Greek and European Law, International Contracts), with the prefecture having six categories of sensitive and protected areas:

- Aesthetic forests: In the wider area is the aesthetic forest Nicopolis-Preveza Mytikas, which was established by Presidential Decree 183 of 05/05/1977.
- Natura 2000: Estuary of Acheron (from Glossa to Alonaki) and Acheron straits (4630.16 Ha), coastal marine zone from Parga to cape Agios Thomas (Preveza), Cape Keladio-Agios Thomas (1525.88 ha), Zalogo mountains (2333.00 ha; http://www.biodiversity.gr/natura.php), and Amvrakikos bay, delta of Louros, and Araxtheiou (a complex ecosystem consisting of the Louros delta river; lagoon system consisting of three major lagoons, Rodia, Tsoukalio, Logarou, and some smaller ones; and a sea area zone; European Commission 2006, p. 6).
- CORINE protected areas: Zalogo mountains, estuary and straits of Acheron, Thesprotian mountains (Preveza), Lake Ziros and Lourou valley (Filippiada), and Lourou straits, Keresonas Area (https://filotis.itia.ntua.gr/biotopes).
- National Parks: Amvrakikos Gulf
- Ramsar areas: Vathi, Pagonitsa, Mazoma, Petras, and Lourou lagoons (wetland complex).
- Specially protected areas based on the Barcelona Convention: aesthetic forest Nicopolis-Preveza Mytikas and the Amvrakikos Gulf (Greek Biotope/Wetland Centre, ekby.gr 2016).

Taking all the above into account and acknowledging the importance of tourism for the region's economy as well as the importance of residents' acceptance of conservation management, this research investigates the potential for sustainable tourism development of the Preveza Prefecture, by recording and analyzing the views of its citizens. Moreover, the specific objectives of this study focused on recording and analyzing citizens' views regarding:

- The type of tourism development that can be applied in the region
- The places of interest or attraction that the Preveza prefecture holds that can be developed for tourism in the context of sustainable tourism development

- The forms of tourism activities in these areas
- Segmentation of residents according to their opinions regarding points of interest for sustainable tourism development and tourism activities in these areas

In order for the above issues to be addressed, the research approach was undertaken.

4 Methodology

A quantitative research approach was utilized. After an extensive literature review and informal discussions with the citizens, the questions incorporated in the survey instrument were chosen. The instrument for gathering data consisted of 12 questions, almost all multi-item ones. It was constructed based on other researchers' studies (e.g., Johan and Joppe 2005; Ross and Iso-Ahola 1991), pilot-tested with 15 respondents, whereas the required modifications were made so it would be understandable and easy to use. Via mall-intercept aided self-administered questionnaire, 150 valid questionnaires were collected. Data were gathered from three municipalities (Zirou, Parga, and Preveza) employing a mall-intercept method, during a 3-month period. Data analysis included frequencies, percentages, means, factor and cluster analysis, and chi-square tests.

5 Results and Discussion

5.1 Sample Profile

The total number of valid questionnaires gathered was 150, from which 75.0% were from the municipality of Preveza, due to proximity and population concentration. Gender was equally represented; participants' mean age was 42.6 years old (Std. = 12.0). Also, the majority was married (65.3%), held a bachelor's degree (46.0%), and was private or federal employees (45.3%) or professionals/business-people (31.3%). Lastly, regarding their monthly net family income, the majority (52.3%) had an income ranging from 600.01 to 1500.00 euros.

5.2 Tourism in the Preveza Prefecture: Potential Development of Tourist Activities

Residents' opinions regarding the type of tourism that could be implemented in the Preveza Prefecture, a prefecture that features noteworthy habitats, were explored. They consider that alternative tourism (92.0%) and not mass tourism is indicated

for the area and specifically in the form of ecotourism (94.5%) for sustainable development (86.4%) of the region.

In connection with the special natural environment of the Preveza Prefecture and the possibility of using them for economic and tourism development of the region, citizens' opinions are presented in Table 1, rated on a 1–5-point Likert Scale, where 1 corresponds to completely disagree and 5 completely agree. The three highest ratings (mean scores, MS) that residents gave are to the delta of Acheron river, Ammoudia-Alonaki-Necromancy (MS = 4.56); the straits of Acheron-Trikastro-Skala Tzavelena (MS = 4.50); and the wetlands of Amvrakikos Gulf, i.e., the lagoons, marshes, rivers, etc. (MS = 4.41).

Table 1 also reflects locals' opinions toward the possibility of developing modern forms of activities near or within the environmentally sensitive areas in the light of a viable/sustainable development in the prefecture. Prominent in their preferences by gathering 89.5% are activities that have to do with biking and hiking (MS = 4.45), followed by activities of diving and fishing with traditional methods (MS = 4.14); canoeing, kayaking, and rafting (MS = 4.11); and finally activities that have to do with bird watching (MS = 4.10).

5.3 *Factor Analysis Segmentation*

Factor analysis via Principle Component Analysis (PCA) with varimax rotation (Hair et al. 2010) was implemented to the two questions regarding points of interest and potential tourist activities, in order to decrease items and make them manageable for further analysis. As important variables in factor formation were considered those with factor loadings >0.50 (Sharma 1996), and in this manner, no item was discharged. Factor analysis (Eigenvalues > 1.0) produced two factors for both cases (Table 1) accounting for 70.9 and 70.6% of total variance (TV). Moreover, for the two questions, the indices Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) which was >0.7, the Bartlett's test of sphericity (BTS), as well as significance level (p=0.000) showed that factor analysis was suitable.

The four factors (2X2) derived from the two questions were then used for segmenting residents based on their views regarding the protected places that could be sustainably tourist exploited and the activities that can be performed in these places (Table 2).

Continuously, chi-square tests with cross tabulation were performed in order to observe if there were any statistically significant differences between the socioeconomic and demographic characteristics of the residents and the two clusters derived. Analysis showed that only one chi-square test was statistically significantly different: profession (x^2_6=14.664; p = 0.014), indicating that there is a relationship between resident's profession and the two clusters' behavior.

Cluster I: Tourism orientated-economic motivated representing 55.9% of the total sample. This segment has the highest FCC for all factors with FCC > 4.40. It is the segment that considers that the nature that the prefecture holds should be

Table 1 Derived factors regarding protected places for attraction or points of interest and forms of tourist activities in these places

Factor-item	Factor loading	MS (StD)
Preveza Prefecture protected places considered of attraction or points of interest TV, 70.9%; KMO = 0.798; BTS = 706.943; *df* = 28, and *p* = 0.000		
1st: *aesthetic forests and wetlands;* 42.4% of the total variance (TV); *a* = 0.879; mean factor score (MFS) = 4.19 (Std. = 0.72)		
Aesthetic forest Lekatsa	0.836	4.00 (0.98)
Wetlands of Amvrakikos Gulf (lagoons, marshes, rivers, etc.)	0.833	4.41 (0.94)
Aesthetic forest Mytika	0.820	3.95 (0.98)
Amvrakikos Gulf (sea area)	0.777	4.25 (0.88)
Lake Zirou-Pedopolis	0.621	4.27 (*0.82*)
Coastal marine zone of the county from Parga to the Cape (area Natura 2000)	0.601	4.22 (*0.87*)
2rd: *Acheron river:* 28.5% of TV; *a* = 0.840; MFS = 4.53 (Std. = 0.63)		
Delta of Acheron river, Ammoudia-Alonaki-Necromancy	0.894	4.56 (*0.65*)
Straits of Acheron-Trikastro-Skala Tzavelena	0.895	4.50 (*0.71*)
Modern forms of tourist activities in the protected areas of the Preveza Prefecture TV, 70.6%; KMO = 0.841; BTS = 463.801; *df* = 21, and *p* = 0.000		
1st: *intense tourist activities;* 42.9% of TV; *a* = 0.896; mean factor score (MFS) = 3.94 (Std. = 0.85)		
Canoeing, rafting, kayaking	0.835	4.11 (*0.93*)
Mountain climbing	0.814	3.99 (*0.97*)
Horseback riding	0.861	3.93 (*0.94*)
Archery	0.846	3.64 (*1.05*)
2rd: *mild tourist activities:* 27.7% of TV; *a* = 0.674; MFS = 4.53 (Std. = 0.63)		
Bicycling and hiking	0.531	4.45 (*0.738*)
Diving and fishing with traditional ways	0.835	4.14 (*0.86*)
Bird watching	0.843	4.00 (*0.96*)

used for nature-based tourism and tourism activities. This cluster is equally represented by men and women and compared to the other cluster has the highest percentage of 26–35- and 66+-year-olds; married and widowed, those with elementary and secondary education, businessman-freelancers and on pension. and the highest income respondents (2000.01 + euros). This segment considers that all protected areas can be exploited for tourism and that all the activities that were rated can be performed in the protected areas. As businessmen, they probably are economic-motivated and care more about tourism penetration than environmental conservation. They seek financial profit from the tourism management of the environment.

Cluster II: Mild tourism orientated-environmental motivated representing 44.1% of the total sample. This segment has the highest FCC for the second factor "Acheron river" (FCC = 3.99) and with no FCC > 4.00. The residents in this group

Table 2 Segmentation based on the factors derived from resident's views

Factors derived from Preveza's protected places for attraction and the potential forms of tourist activities	1st cluster ($n = 81$)	2nd cluster ($n = 64$)	ANOVA	Statistics (p)
F1: "aesthetic forests and wetlands"	4.43	3.86	26.442	0.000
F2: "Acheron river"	4.83	3.99	76.860	0.000
F1: "intense tourist activities"	4.41	3.29	109.589	0.000
F2: "mild tourist activities"	4.59	3.70	111.405	0.000

agree that Acheron river and the aesthetic forests and wetlands of the Preveza Prefecture can be highlighted for sustainable tourism development and ecotourism, but they seem more skeptical about the tourism activities that will be performed, with a more positive attitude for activities that are considered as mild activities. This cluster is equally represented by men and women and compared to the other clusters has the highest percentage of 36–45-year-olds, single, those with bachelor's degree, unemployed and laborer, and those with income up to 2000.00 euros (almost equally represented in four categories: up to 650.00 euros, 650.01–1000.00, 1000.01–1500.00, and 1501.01–2000.00 euros). As a highly educated cluster, they seem to be concerned with environmental issues and are supporters of mild tourist penetration in the protected areas which will not destroy the natural environment. They seem to be the environmentally conscious group and probably are members of environmentalist organizations.

6 Conclusions, Limitations, and Guidelines for Further Research

This research had as its basic aim to record residents' opinions of the Preveza prefecture regarding sustainable tourism development in its protected areas. Its objectives were focused on citizens' opinions regarding which of the protected areas are considered as main attraction pole and which form of tourism activities can be developed in these areas. The aim and objectives were accomplished through quantitative research on a sample of 150 locals from 3 municipalities. Additional objective was to segment residents based on areas of attraction and potential tourist activities developed in these protected areas. This was accomplished through market segmentation, i.e., cluster analysis. Two clusters derived with similar in-cluster and different between cluster behaviors. This research is important for the region of Preveza since it records people's views on tourism development while simultaneously preserving the environment. Though, it has some unavoidable limitations which may serve as guidelines for further research. First of all, it was self-funded, and as such, due to major economic constraints, it was limited to the Preveza Prefecture. Therefore, it was difficult to access rural areas which in other matters the researchers could have accessed and collected data from. Also, the

research was addressed only to permanent residents, and in the future, another study can include visitors to the area. There might be other places in Preveza Prefecture that could be tourist developed, but these were the ones that are characterized as protected areas, and thus the items were limited. Lastly, due to economic and time constraints, there was a limited sample of 150 citizens, which in the future with a new research can encompass a larger sample and thus validate these findings.

Nevertheless, this research is considered of importance, since a handful of studies focused on local' residents' views on sustainable tourism development in Epirus (Jones et al. 2015; Andrea et al. 2013c) and moreover none to our knowledge in Preveza Prefecture.

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