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The Visitor to Vinhais Biological Park

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ABSTRACT

Natural spaces have become a tourist attraction that allows leisure activities to be practiced, contributing to the tourist experience and a better quality of life for the communities visited and visitors. Environmental preservation, fauna, flora and the various ecosystems associated with natural spaces have given rise to ecotourism as a segment of tourism. The Vinhais Biological Park, part of the Montesinho Natural Park, is an ecotourism destination with environmental education practices. With this in mind, the purpose of this research project is to get to know the visitors to the Vinhais Biological Park. The study adopted a quantitative methodology with a questionnaire survey of park visitors. Among other things, the main reasons for the visit were “to enjoy nature”, “to get to know the fauna and flora of the region” and “to enjoy the landscape”. Respondents were generally satisfied with the visit and it met their expectations. The results of the research are intended to contribute to a more sustainable promotion of the park's offer, taking into account the visitor profile, the reasons for the visit, the park's most popular attractions and the level of satisfaction. The aim is to help improve the performance of the Park, both in terms of the activities offered and the services provided, by offering a set of information that will enable them to create strategies and thus increase visitor satisfaction.

Keywords: Natural spaces; Ecotourism; Visitor profile; Vinhais Biological Park.

1. INTRODUCTION

Natural and cultural resources are recognized as being extremely important for the tourism market. The surrounding natural spaces that can be found in protected areas and nature parks dictate the demand for visitors and the sustainable development of rural regions (Castro & Ferreira, 2010). In Portugal, the creation of protected areas took place in the 1970s, whose legislation focused on nature protection and the conservation of the natural heritage. According to Decree-Law 613/76, of July 27, natural parks were defined as areas of territory, duly ordered, with a view to recreation, nature conservation, landscape protection and the promotion of rural

populations, which may affect public or private property and where zoning establishes the aptitudes and uses of the different plots of land. This Decree-Law referred to the creation of a National Network of Protected Areas to be implemented at national, local, regional and private level. Thus, protected areas, with their attributes, are perfect destinations for ecotourism, and the emergence of natural parks in less economically developed regions can promote and develop tourism (Castellanos-Verdugo et al., 2016). On the path to conserving a region's natural and cultural heritage, ecotourism has arisen which, in addition to preserving a territory's main tourist resources, allows for its sustainable development. One of the ideals of ecotourism is environmental education and the preservation of the region's fauna and flora. For Carvache-Franco et al. (2021), the various players in the tourism industry should identify the motivations behind the demand for ecotourism attractions/destinations in order to plan more efficient and effective strategies for offering activities. The Vinhais Biological Park, part of the Montesinho Natural Park, has a strong presence in ecotourism, providing infrastructures such as interpretive centers, flora and fauna viewing and activities that allow visitors to get closer to the territory's natural and cultural resources. Thus, considering the importance of ecotourism for the sustainable development of territories and identifying the motives of visitors, this study aims to get to know the visitors to the Vinhais Biological Park.

2. LITERATURE REVIEW

2.1. Ecotourism

As tourism is one of the largest industries in the world, its impact on people and the environment is huge. If we see an uncontrolled development of tourism, the result will be the destruction of habitats and landscapes, the generation of waste and pollution, among other things. Responsible and sustainable tourism will raise awareness and support for the preservation and culture of a destination, creating economic development for countries and communities. Ecotourism is therefore based on trips to destinations where flora, fauna and cultural heritage are the main attractions (Chen et al., 2019) and it promotes the preservation of natural and cultural heritage and local development (Roseta et al., 2020).

We can't consider all nature tourism to be ecotourism. The main reason for nature tourism is to admire and enjoy nature (Torres-Delgado & Saarinen, 2014), which doesn't always mean preserving the environment or caring about the life of the local community, and may or may not be sustainable (Tran & Walter, 2014). Zingi et al. (2022) say that ecotourism can be a way of developing local economies, especially in rural areas where, despite having countless natural resources, they struggle to boost their economy. "Ecotourism is an activity that uses natural resources in the form of a tourist attraction that aims to educate, conserve and contribute to the economy of the people and the state" (Aswita, 2018, p.18). Its aim will be to promote sustainable tourism, where tourists can enjoy a destination without causing negative impacts and communities benefit from tourist activity (Jaini et al., 2012). Ecotourism shows visitors the

impact that human beings can have on the environment and helps to promote respect for their natural habitat. This type of tourism also has the capacity to provide important revenue for the protection of natural areas and national parks (Xu et al., 2019).

2.1.1. Motivations of Ecotourism

Motivations are psychological needs and desires that result in behaviors and lead tourists to participate in tourist activities (Meng et al., 2008), in addition to explaining tourist behavior, motivations guide the intention to visit (Huang & Hsu, 2009). In Ecotourism, the visitor is looking for unique and meaningful experiences, such as contact with residents, helping to conserve natural resources and learning about an ecosystem (Balmford et al., 2009). Motivations for this type of tourism vary greatly, which means that the degree of satisfaction also varies and depends on the desire to visit different natural attractions (Okello & Yerian, 2009). We can understand motivations as the needs and desires that lead people to visit a place and take part in existing activities, and which will influence the satisfaction of ecotourists (Carvache-Franco et al., 2021). Perceived value, satisfaction and involvement in activities lead to tourists behaving more responsibly towards the environment. When tourists pay attention to the environment, the level of involvement is higher, creating positive feelings for natural areas and ecology, making them more environmentally responsible. Thus, more responsible environmental behavior is determined by satisfaction and if travelers feel happier and more satisfied with ecotourism, their environmental behavior increases (Chiu et al., 2014; Handriana & Ambara, 2016; Petrick, 2004). Carvache-Franco et al. (2021) point out that operators and companies in the tourism industry should look at the motivations that influence satisfaction in ecotourism destinations in order to plan strategies, providing innovation and novelty in activities. In the authors' view, new activities increase tourist satisfaction, benefiting the destination and the community and contributing to the destination's sustainability. In nature destinations, tourists can have different motivations (Chikuta et al., 2017; Kozak, 2002) and table 1 summarizes the main motivations for ecotourism suggested by Carvache-Franco et al. (2021).

Table 1: Motivations of Ecotourism

Authors	Motivations
Panin e Mbrica (2014)	Social activities, sports and health activities, motivation for nature and cultural activities, and educational activities; motivations related to sports and recreational activities, the positive impact on health, walking in the forest, seeing and enjoying nature, are the main motivations in ecotourism.
Lee et al. (2014)	Self-development, interpersonal relationships, rewards, development of personal relationships, escape from the defensive function of the ego, and appreciation of nature.

Iversen et al. (2016)	Novelty, relaxation, an active nature and social interaction.
Xu e Chan (2016)	Personal improvement, relaxation, knowledge, getting out of the routine, destination scenery, information and convenience, and lots of fun activities.
Kamri e Radam (2018)	Challenge excursions, social trips, nature walks and escape.
Jeong et al. (2018)	Health, nature, cohesion and escape.
Chow et al. (2019)	Relaxation, escape from everyday life, and physical and mental health.

Source: Carvache-Franco et al. (2021)

From the point of view of various authors, escape from everyday life and the search for relaxation through contact with nature and the possibility of practicing activities are the main motivations associated with the search for ecotourism. Therefore, in addition to the diversity of motivations, they have similarities related to nature, social interaction, novelty and escape.

2.2. Vinhais Biological Park

The Vinhais Biological Park (VBP) is located in the municipality of Vinhais, a town in the district of Bragança, in the northern region and sub-region of Terras de Trás-os-Montes, in Portugal. Vinhais is a parish and county seat with an area of 694.68 km² and 7768 residents in 2021 (Pordata, 2024) and a significant part of its territory falls within the Montesinho Natural Park.

The concept of an “organic park” is now used in many countries and is a memorial to local culture. It is also a nature reserve where wild fauna and flora are protected and encouraged. It can also be an ecomuseum, which preserves and promotes traditional buildings, handicrafts or gastronomy. The “biological park” model performs one of the most important functions of green areas, contact with nature, a source of psychological balance and seeks to preserve the typical landscape of the region, not recreate it. The Vinhais Biological Park is a public facility set up by the Vinhais City Council. The aim of this project was to transform a region of passage into a region of stay, a destination for vacations and weekends, appealing to natural values, allowing the growth of a new segment of the tourist market - Ecotourism. The PBV has great natural diversity, with the following skills: i) Interpretation of the region's landscape, in terms of its natural components (flora, fauna and geography), cultural components (history, archaeology and ethnography) and also in terms of environmental education; ii) Nature conservation and

biodiversity promotion; iii) Development of tourism, especially ecotourism, recreation and leisure for the population.

The VBP is divided into four poles - the central pole and three complementary poles. The central pole shows a sample of the region's fauna and flora. In the three complementary poles, visitors can find routes that start at the central pole. The VBP offers three interpretive centers: i) the Iberian Wolf Interpretive Center; ii) the Mycological Center; iii) the Native Breeds Interpretive Center.

3. METHODOLOGY

The main objective of this study is to get to know the visitors to the Vinhais Biological Park. The following specific objectives were defined for this research: i) to analyze the visitor profile; ii) to identify the reasons for the visit; iii) to evaluate visitor satisfaction. The study adopted a quantitative approach, using a questionnaire survey of visitors to the VBP. The questionnaire was structured in four parts to meet the specific objectives of the research, and applied in three languages (Portuguese, English and Spanish), and in two formats, paper and online (via QRcode). In the first part of the questionnaire, the visitor's profile was assessed through sociodemographic characteristics. In the second part, indicators related to the visit were analyzed, namely the travel group and the reasons for the visit. In the third part, the activities carried out by the visitors were identified and the overall level of satisfaction with the visit was determined, and the last part identified the positive and negative aspects of the visit.

In order to validate and determine the reliability of the questionnaire, the Cronbach's Alpha coefficient was applied, which is one of the most widely used indicators to assess the internal consistency of a set of variables, as well as instruments that use Likert-type scales (Coutinho, 2011; Pestana & Gageiro, 2008). The constructs analyzed were the reasons for visiting the VBP, the activities carried out at the VBP, the visit to the VBP and the signposting of the VBP. The motivational factors for the visit to the VBP had a very good coefficient (0.910), as did the activities carried out (0.948) and the visit to the VBP (0.939). VBP signage also has a good indicator (0.843).

Data collection took place between August and December 2022, during visits to the park's animal and plant trail. 304 questionnaires were collected (216 online and 88 on paper). With the information collected, a quantitative analysis of the questionnaire data was carried out using IBM SPSS software, version 29 for Windows.

4. RESULTS

The first part of the questionnaire was intended to analyse the profile of visitors to the VBP. The sample is distributed among male visitors (51,3%, n= 156) and female (48,0%, n=146), with an

average age of 38, single (43,8%, n=133) and married (31,6%, n=96). As for the level of education, the respondents have higher education (2nd and 3rd cycle, 45,4%, n=138), and secondary level (25,0%, n=76) and higher education (first cycle, 24%, n=73). In their professional situation, employees (70,4%, n=214), self-employed (13,2%, n=40) and students (9,2%, n=28). 91% of 304 respondents live in Portugal (n=277). The majority of visitors live in the district of Porto (29,5%, n=90), in the district of Bragança (17,5%, n=53), in the district of Lisboa (16,5%, n=50) and Braga (9,2%, n=28).

In the second part of the questionnaire, indicators related to the visit were analyzed, namely, the travel group, the number of companions and their ages, and the reasons for the visit. The majority of respondents travel with their spouse/partner (33,2%, n=101) and 22,4% are accompanied by their spouse/partner and child(ren) and family (n=68). Only 1.6% travel alone (n=5). Almost 50% of visitors (41,8%, n=127) visits the park accompanied by one person, followed by visitors accompanied by two and three people, respectively (22%, n=67 e 16,4%, n=50). The companions' ages range from 6 months to 79 years. Of all respondents, 75,3% (n=229) visiting the park for the first time.

As for the main reasons for the visit (Table 2), the question was drawn up using a five-point Likert scale of importance (1-not important; 2-little important; 3-indifferent; 4-important and 5-very important), and included 20 variables. It was determined that, for analysis purposes, less than three is at most “little important”, equal to three is “indifferent” and greater than three is at least “important”.

Table 2: Reasons for visiting VBP (%)

Reasons	N	Less than three	Equal three	Higher than three	Average	Standard Deviation
Enjoy nature	301	0,3	7,6	91,1	4,65	0,638
Getting close to the animals/knowing the fauna and flora of the region	297	0,6	8,2	88,8	4,59	0,688
Enjoy landscape paisagem	299	0,7	10,2	87,5	4,53	0,706
Be in quiet environments away from crowds	302	1,3	9,9	88,1	4,49	0,741
Relax	301	1,3	11,2	86,5	4,46	0,745
Escape from the daily routine	297	1,9	8,9	86,9	4,46	0,758
Enjoy the sounds of nature	299	2,3	10,5	85,5	4,45	0,803

Getting to know the Park's unique characteristics/image of the destination	296	2,3	13,5	81,6	4,34	0,852
Carrying out educational and activities in nature	295	13,9	16,1	67,1	3,90	1,185
Spend time with friends	299	18,1	13,5	66,8	3,81	1,313
Be safe	297	15,5	20,1	62,2	3,77	1,214
Live adventures	296	17,1	24,7	55,6	3,68	1,260
Develop and update personal skills	295	26,9	26,0	44,1	3,26	1,310
Enjoying the physical amenities/accommodation	293	32,9	17,8	45,7	3,17	1,513
Feel free and independent	292	31,9	22,7	41,4	3,12	1,381
Parent and child experiences	288	37,6	11,5	45,7	3,10	1,700
Communicate and learn from other visitors	291	55,3	19,7	20,7	2,34	1,267
To test myself	291	59,2	17,4	19,1	2,28	1,280
Meet people with interests semelhantes	295	63,5	17,1	16,4	2,16	1,280
Build friendships	293	59,2	18,1	19,1	2,04	1,183

Most of the reasons were above average, with eight reasons having averages of more than 4 points. Of the 20 reasons analyzed, the three reasons most answered by 302 and 301 respondents, respectively, were “Be in quiet environments away from crowds”, “Enjoy nature” and “Relax”. The reason that stands out the most for 301 respondents is “Enjoy nature”, with an average of 4.65 (standard deviation of 0.638). Approximately 89% (n=297) consider the motivation “Getting close to the animals/knowning the fauna and flora of the region” to be important, and 87.5% (n=299) agree that “Enjoy landscape” is also important, with an average of 4.59 (standard deviation 0.688). It can also be seen that eight reasons have indicators between 3 and 4 points, considering these factors to be at least “important” for the visit. Of the 20 reasons, only four were below the average, less than 3 points: “Communicate and learn from other visitors”, “To test myself”, “Meet people with interests” and “Build friendships”.

The second part of the questionnaire also looked at the sources of information consulted to find out about the park. The VBP website, word of mouth from friends and family, blogs and the

internet are the main sources of information consulted, with 43.1%, 41.8% and 41.8% respectively.

In the third part of the questionnaire, the activities carried out by visitors were identified and the overall level of satisfaction with the visit was determined. The vast majority, 92.4% (n=281) of visitors, said they had carried out the activity “Visit to the park's trail (collection of animals and plants)”. As for the level of satisfaction, a number of indicators relating to the park's services were evaluated (Table 3), on a Likert-type satisfaction scale of 1 to 5 (1= not satisfied to 5= very satisfied).

Table 3: Park Attributes (%)

Variables	N	Less than three	Equal three	Higher than three	Average	Standard Deviation
Interesting project	287	1,6	8,2	84,5	4,55	0,726
Collaboration of staff/guides/monitors	281	3,6	8,9	79,9	4,51	0,862
Adequate layout of attractions	282	2,3	10,5	79,9	4,39	0,784
Information provided at each attraction/facility	287	3,9	9,5	80,9	4,38	0,832
Park accessibility	288	3,9	11,8	78,9	4,33	0,851
Involvement with the Park's attractions	287	3,6	11,8	79	4,32	0,838
Quality of facilities	283	4	9,9	81,2	4,31	0,857
Practiced prices	275	4,6	13,2	72,7	4,25	0,924
Variety of facilities/attractions	283	5,3	11,8	76	4,22	0,875
Souvenir stores	264	9,9	17,8	59,2	3,86	1,044

There is a positive average satisfaction rating for all the park's attributes, above 4 points. A total of 84.5% (n=287) of visitors consider the park an interesting project and are satisfied, with an average of 4.55 (standard deviation 0.726). The attribute with the least response and the lowest level of satisfaction is the “Souvenir stores”.

With regard to the expectations created, the question considered a scale of 1 - “much worse than expected”, 2 - “worse than expected”, 3 - “indifferent”, 4 - “better than expected”, up to 5 - “much better than expected”. Of the 297 respondents, 45.10% (n=137) answered that the visit

was “better than expected” and 41.1% (n=125) considered it “much better than expected”, in line with the answers given regarding satisfaction with the park's attributes.

The fourth part of the questionnaire identified positive and negative aspects of the visit. The opinions were grouped into four dimensions: general park operation, education, animals, and feelings about the visit. These dimensions emerged from the study by Pires (2020), in order to better organize the information on the positive and negative aspects mentioned, which could also serve as suggestions for the management bodies of the Vinhais Biological Park. The “feelings” dimension was added by the researcher due to the fact that many visitors describe, sometimes in just one word, what they felt during their visit to the park.

Visitors consider the VBP to be a place where there is harmony with nature, animal and plant diversity, suitable for carrying out environmental and cultural activities with children, where they can have fun and learn, highlighting the educational component. They highlight the hospitality of the park's staff, as well as the knowledge acquired, the safety conditions, accommodation, accessibility and cleanliness of the park. They often referred to the animals and their habitats as “well treated”, the similarity of the spaces to natural habitats, the amount of shade and the fact that they had contact with the animals and saw unknown species. They describe feeling peace, tranquillity and relaxation, joy, freedom and respect for nature.

As less positive aspects, visitors mention the “apparent lack of dynamism in the park”, the lack of information in English, and the lack of accessibility for people with motor and visual disabilities. As for the interpretive centers, they describe the Iberian Wolf Interpretive Center with no maintenance and the lack of cleanliness at the Interpretive Center for Portugal's native breeds. They claim to have found obsolete equipment and a weak cell phone/WiFi network. They mainly point to the noise of other visitors as a perceived problem.

In an open question, in this last part of the questionnaire, visitors could leave suggestions for the park's managers. Table 4 summarizes visitors' suggestions on the park, education and animals dimensions.

Table 4: Visitor suggestions

Specific objectives	Results
1. Analyze the visitor profile	Visitors to the Vinhais Biological Park have an average age of 38, live in Portugal and mostly live in the districts of Porto and Bragança. They are single, have higher education (2nd and 3rd cycle) and are employed. Most respondents travel with their spouse/partner and are accompanied by just one person. The weather forecast had no influence on their plans and 75.3% of visitors were visiting the park for the first time. The sources of information consulted before the visit were the park's

official website and also through friends/family and blogs/internet.

4.1.	2. Identify the reasons for the visit	Of the 20 variables presented to respondents regarding the reasons for their visit, the reasons that stand out the most are: Enjoy nature; Getting close to the animals/knowning the fauna and flora of the region; Enjoy landscape.
	3. Evaluate visitor satisfaction	In terms of expectations, 45.1% said that the visit was better than expected. With regard to the overall level of satisfaction with the visit, 57.9% of visitors said they were "very satisfied", thus highlighting a very positive assessment of their visit to the park.

Answer to the study objectives

The purpose of this section is to answer the general objective of the study, which is to define "Who is the visitor to the Vinhais Biological Park?" and to answer the associated specific objectives. Table 5 describes the results obtained in the research corresponding to each of the specific objectives.

Table 5: Specific objectives versus results

Specific objectives	Results
1. Analyze the visitor profile	Visitors to the Vinhais Biological Park have an average age of 38, live in Portugal and mostly live in the districts of Porto and Bragança. They are single, have higher education (2nd and 3rd cycle) and are employed. Most respondents travel with their spouse/partner and are accompanied by just one person. The weather forecast had no influence on their plans and 75.3% of visitors were visiting the park for the first time. The sources of information consulted before the visit were the park's official website and also through friends/family and blogs/internet.
2. Identify the reasons for the visit	Of the 20 variables presented to respondents regarding the reasons for their visit, the reasons that stand out the most are: Enjoy nature; Getting close to the animals/knowning the fauna and flora of the region; Enjoy landscape.
3. Evaluate visitor satisfaction	In terms of expectations, 45.1% said that the visit was better than expected. With regard to the overall level of

satisfaction with the visit, 57.9% of visitors said they were "very satisfied", thus highlighting a very positive assessment of their visit to the park.

5. CONCLUSIONS

The Vinhais Biological Park, like other parks and tourism agents, and as Carvache-Franco et al. (2021) consider in terms of its importance, has identified the motives of its visitors and the associated degree of satisfaction. In addition to this information, considering the general objective of the study, other data was collected about the park's visitors. In a first conclusive analysis, the park visitor has an average age of around 38, is married, has higher education, is an employee and lives in Portugal. They are accompanied by their families and a minority visit the park alone. To gather information about the park, he looked at the PBV website, word of mouth from friends and family, blogs and the internet. The three main reasons for visiting are "Enjoy nature", "Getting close to the animals/knowing the fauna and flora of the region" and "Enjoy landscape". In the study by Carvache-Franco et al. (2021), the various authors referenced point out that the motivations for ecotourism are escape from everyday life and the search for relaxation through contact with nature. Thus, "Be in quiet environments away from crowds", "Enjoy nature" and "Relax" are the most frequently mentioned reasons, by 302, 301 and 301 respondents, respectively. Of the most popular activities, the "Visit to the Park's trail (collection of animals and plants)" stands out and they consider themselves satisfied with this activity. Visitors consider themselves satisfied with their visit to the park, highlighting the park as an interesting project and the collaboration of the staff/guides/monitors. In conclusion, the level of satisfaction with the visit exceeded visitors' expectations.

Considering the visitors' suggestions, it is pertinent to point out some improvements in the management of the Vinhais Biological Park. Investing in technology to create more interactivity with visitors, audio guides and voice guides with QR codes, more information in English, and improving the park's signage. The gift store should have a more attractive display of products. An update of the information on species and material in some interpretive centers. Diversify the activities available at the VBP, namely teambuilding activities and themed workshops.

With regard to the limitations of the study, visitors were approached at the reception to collaborate in the study and filled in the questionnaire at the end of their visit to the animals and plants trail, considering that they could or could not do other activities such as visiting the equestrian center or practicing tree climbing. As future lines of research, a new study could be carried out to overcome this limitation, segment the visitor market and carry out research in the various seasonal periods.

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