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# Segmentation by Motivation in Ecotourism: Application to Protected Areas in Guayas, Ecuador

**Mauricio Carvache-Franco [1,2,*], Marival Segarra-Oña [3] and Conrado Carrascosa-López [3]**

[1] Faculty of Tourism, Universidad Espíritu Santo, Samborondon 092301, Ecuador
[2] Faculty of Business Administration and Management, Universitat Politècnica de Valencia, 46022 Valencia, Spain
[3] Management Department, Universitat Politècnica de Valencia, 7D building, Camino de Vera s/n, 46022 Valencia, Spain; maseo@omp.upv.es (M.S.-O.); concarlo@upvnet.upv.es (C.C.-L.)
* Correspondence: mauricio2714@hotmail.com; Tel.: +593-992206963

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**Abstract:** Among tourists, there is recently a growing interest in the environment and enjoying the natural world. This study analyzed the motivations and segmentation of the demand for ecotourism, using functional theory as a reference point. Empirical analysis was carried out in Santay National Recreation Area, Morro Mangrove Wildlife Refuge, and Samanes National Recreation Area. The sample included 382 surveys, obtained in situ using the simple random sampling method. Factorial analysis and non-hierarchical segmentation were performed to analyze the data. The results indicate that there are several motivational dimensions in ecotourism, including self-development, interpersonal relationships and ego-defensive function, building personal relationships, escape reward, and nature appreciation. We also identified three different segments of ecotourists based on their motivations—nature, multiple motives, and reward and escape—as well as the characteristics of the different segments. The present investigation will help public institutions and private companies improve their tourism offerings and develop more efficient marketing plans.

**Keywords:** segmentation; demand; motivations; ecotourism

## 1. Introduction

Ecotourism is one of the fastest growing sectors in the tourism industry [1]. Empirical research was also carried out, whereby these motivations were found to represent 5% of the worldwide population and grew three times faster than tourism in general [2]. Tourists are looking for meaningful experiences, such as getting in touch with local communities, learning about an ecosystem, and participating in the conservation of natural resources [3]. Ecotourism areas became important destinations, due to their efficiency in protecting the environment and supporting education, recreation, and job creation [4]. Market segmentation is widely used to identify the niche markets of different tourism products and services [5]. It was developed based on behavioral theories such as motivation or recreational specialization [6]. The segmentation of demand has been extensively studied [7–13]. The segmentation of demand is extensively considered as a basic criterion for the segmentation of tourism demand [14–18].

Motivation is a fundamental concept in the study of travel behavior and determines different aspects of tourism, including the reasons for travel, choice of specific destination, and overall satisfaction with the trip [19]. Likewise, understanding the reasons for choosing a particular destination and the desires for experiencing something are important primary information, allowing us to improve the quality of the visitors' experiences, as well as their satisfaction [20]. Indeed, each visitor may have

different motivations and preferences when traveling to different destinations [14]. Planning by the tourist destination, therefore, has to begin with an investigation of tourist behavior [21].

In relation to ecotourism, the segmentation of visitors based on motivations is the most reliable method for understanding the different groups in trips to protected areas [22,23]. Ecotourists should not be treated as a homogenous group, because their profiles, motivations, and behavioral characteristics differ widely [23,24]. However, the lack of information about the different ecotourism segments hinders efficiency in specifically targeted promotion programs [5]. Despite this, segmentation is used by managers to effectively commercialize a destination [25]. Important advantages are also obtained by market segmentation in ecotourism, because operators around the world experience clear pressures to ensure that consumers receive the experiences they anticipate [26].

This study is important because the interest in sustainability increased in the tourism industry. It is becoming increasingly important to identify the factors that influence ecotourism behavior [27]. Ecotourism should provide both an educational experience for tourists and economic, sociocultural, and environmental sustainability for the destination [28]. Ecotourism is increasingly recognized as a way to promote not only local livelihoods and culture, but also environmental conservation [29]. Also, this study is important because the tourists are more aware of the environment and have greater motivation to visit attractions and participate in activities due to environment-related content [30]. Instead, the segmentation of tourists according to their motivations allows tourism providers to create preferred and valued products and services in the destination markets [31]. However, the few studies of demand segmentation tended to find different ecotourism segments [28]. Also, there is only a small number of market segmentation studies that deal specifically with visitors of protected areas [32]. Therefore, this study can contribute to fill this gap in the scientific literature because there are few studies conducted on segmentation of ecotourism motivations. In this way, in the region, it is important to segment the demand, so that groups of economically interesting tourists can be identified and cared for. This is especially important in an ecotourism destination where issues of ecological sustainability are likely to arise. To balance environmental sustainability with economic viability, it is important to attract these groups of tourists that are the most beneficial to the region [33].

To address this gap, this article analyzes the segmentation of the demand in terms of motivations in ecotourism to provide information to tourism marketers that will help them plan efficient marketing strategies. This study also contributes to the debate on demand in ecotourism. To fulfill this objective, the present article includes, after this first introductory section, the second section, which reviews the literature; the third section, which describes the study area; the fourth section, which shows the methodology of the investigation; and the fifth section, which contains the results. The manuscript ends with a sixth section containing the discussion, conclusions, limitations, and future lines of research.

## 2. Literature Review

### *2.1. Motivations in Ecotourism*

Motivation is defined by many researchers as the psychological needs and desires that provoke, direct, and integrate behavior and activity [34]. Tourist motivation is the set of needs that influence a person to participate in a tourist activity [35], and it is the central factor in the decision-making process [36]. Studying motivations allows us to understand the choices, preferences, and needs of a traveler [21]. Motivational factors are also defined as psychological needs that play an important role in making a person feel a psychological imbalance that can be corrected through a travel experience [37,38].

Concerning ecotourism, tourists have different reasons for visiting different nature-related attractions and destinations [39]; Wood [40] argued that the main motivations for ecotourism are the observation and appreciation of natural characteristics and related cultural assets. Other scholars pointed out, however, that the main intrinsic motivations for ecotourists are learning about nature, being physically active, and meeting people with similar interests [41]. Relaxation in a natural environment was qualified as the most important need for ecotourists. By contrast, Page and

Dowling [42] mentioned that some ecotourists travel to satisfy pleasure and recreational needs, as well as educate themselves about specific areas. For Pearce and Lee [43], the motivations were related to escape, relaxation, relationship enhancement, and self-development. These four central motivations could, therefore, be understood as the backbone or skeleton of all travel motivation patterns. Looking at most important motivations for ecotourists in the Republic of Serbia, Panin and Mbrica [44] divided these motivations into four groups: cultural and educational activities, nature, social activities, and sports and health activities. They also argued that motivations related to sports and recreational activities, a positive impact on health, walking through the forest, and seeing and enjoying nature were the main motivations for ecotourism [44]. By contrast, Lee et al. [45] analyzed tourists at restored ecological parks in South Korea and found seven motivational factors: self-development, interpersonal relationships, rewards, building personal relationships, escape, ego-defensive functions, and nature appreciation. On the other hand, Ma et al. [46], conducted a study in the National Protected Forest Areas in southern China, finding that the most important motivation in Chinese visitors is "getting close to nature". In contrast, Ma et al. [47] conducted a study in the Nanling National Forest Park and the Dinghushan National Nature Reserve, finding that the most important factor in Chinese tourists is "relaxation and nature exploration". On the other hand, Chow et al. [48] conducted a study to visitors to the Ramsar wetland in Hong Kong, finding that the most important motivations were relaxation, escape from daily life, and physical and mental health.

Concerning the characteristics of ecotourists, Cheng et al. [49] considered that ecotourists would positively influence the intention, interest, and willingness to pay a higher price for ecotourism products and services. This led to the conclusion that tourists of sustainability are willing to spend more, which can increase the benefits to sustainable tourism destinations [50].

The present study is founded on functional theory, which was introduced by Katz [51], who proposed that there are four motivational functions based on the literature of sociology: a knowledge function, a function of expressive value, a self-defense function, and a utilitarian function; to these, Smith et al. [52] added another function, that of social adjustment. The knowledge function focuses on the desire to obtain information to understand the world. Knowledge variables such as learning, meeting new people, appreciation of nature, and being with like-minded people correspond to the knowledge function. Although the desire for knowledge is not an absolute desire to understand the entire universe, people want to understand the events that affect their own lives [53]. The ego-defensive function emphasizes the reduction of social pressure by participating in an event. An individual finds means that will allow him to avoid or escape an unpleasant internal or external reality. As a result, the individual can choose to adapt to the contemporary event by eliminating anxiety. The elimination of anxiety can be achieved through commitment, such as being a member of a society and joining the society's discussions about topics of similar interest with substantive rationality [45]. The utilitarian function emphasizes the minimization of punishment and the maximization of rewards [54]. Measurement of the utilitarian function can include gaining self-confidence, being independent, having fun, experiencing different cultures, and avoiding stress. Finally, the social adjustment function describes an acceptable norm for other associates, including family members, relatives, and friends [45].

### *2.2. Demand Segmentation in Ecotourism*

According to Dolnicar [55], segmentation is based on the notion that the market is composed of subgroups of people with different and specific needs and preferences. Segmentation also identifies itself as the decisive criterion for determining which group of clients should be targeted and how to use resources more efficiently, as well as how to efficiently evaluate different competitive strategies [56]. Many empirical investigations considered motivations as an element of market segmentation research for tourism [57,58]. The segmentation strategy can, in this sense, be used to identify specific tourist groups, provide better tourism packages, increase benefits to destinations, and develop a tourism policy or more efficient planning for marketing [50]. It is also used to help tourism service providers

evaluate new tourism product opportunities [59]. According to Ryan [60], women had stronger motivations than men. On the other hand, the groups most motivated by ecotourism were the ones that were most satisfied [61].

Some research on demand segmentation in ecotourism identified the ecotourist as a tourist with motivations and behavior related only to the nature and the criteria of ecotourism learning [62,63]. By contrast, Weaver and Lawton [28] conducted a study in Australia's Gold Coast Hinterland and identified three groups. The first involved "hard" ecotourists, who showed great affinity for conservation and sustainability and preferred to travel in small groups. These ecotourists were physically active and enjoy challenging activities, and they also had experience in planning their own travel arrangements. The second group involved "soft" ecotourists, who appreciated ecotourism, but like more traditional vacations, they preferred planning multiple, short trips. "Soft" ecotourists were not very physically active and they requested comfort and good-quality service. The final group involved "structured" ecotourists, who, although similar in many ways to the "hard" ecotourists, were more like the "soft" ecotourists in their preference for multipurpose travel and premium services.

Concerning more recent studies, Cordente-Rodríguez et al. [64] analyzed the visitors in the Serranía Alta protected area of Cuenca in Spain. They found two groups: (1) nature, or those who have the unique motivation to enjoy nature and resources; and (2) multiple motives, i.e., those who have a combination of various reasons, such as enjoying nature and gastronomy, and visiting villages to learn about cultures and traditions. By contrast, Sheena et al. [65] analyzed the different groups of ecotourists who visited the Kinabalu Park, Sabah, in Malaysia. Like Weaver and Lawton [28], they found three groups: (1) hard, who constituted the largest segment of ecotourists in the park and were more willing to try highly challenging activities and maintained a desire to learn; (2) structured, who were mainly similar to the "soft" ecotourist group because of their preference for services during the trip, previous travel arrangements, and their strong preference for a learning component; and (3) soft, who disliked physical activities and preferred guided walks through nature.

Another study, Barić et al. [66], also found three groups in their study of visitors to the Paklenica National Park in Croatia: naturalist, for whom the enjoyment of nature was the most important; escapists, who had a desire to escape and overcome loneliness, with a moderate interest in nature; and ecotourists, who enjoyed nature and novelty, with an interest in education or learning from experiences. They also showed high motivations in the other variables. By contrast, Neuts [33] analyzed market segments with economic impacts on ecotourism in the Shiretoko National park on Hokkaido in Japan. This study found four segments: bear-watchers, who wanted to observe bears or visit waterfalls or the park's Nature Centre; landscape-lovers, for whom the elements of the landscape were the main reason to visit; organized tour groups, who were motivated by the elements of the landscape and the observation of whales; and active explorers, who were tourists with wide motivations, although they preferred landscape elements and the observation of fauna such as bears and birds.

Another study, that of Gu et al. [67], was conducted in the Changbai Mountain Biosphere Reserve in northeastern China, finding four groups: "nature travelers", interested in experiencing nature and appreciating natural landscapes; "cultural landscape tourists", interested in participating in and appreciating nature and natural landscapes; "food and shopping enthusiasts", showing a medium–high interest for the natural and cultural features of the reserve; and "eclectic adventurers", expressing a wide range of motivations to visit the reserve, with higher average scores on most motivational factors. Likewise, Jeong et al. [68] conducted a study in Kuang Si Waterfall and Konglor Cave in Lao People's Democratic Republic, finding four segments: "nature and cohesion-seeking tourists", "nature-seeking tourists", "passive nature-seeking tourists", and "want-it-all tourists". In contrast, Smith et al. [32] identified four segments of visitors based on their purposes for visits and activities undertaken. These segments were "nature experience seekers", who focused on a wide range of active activities; "passive experiencers", who enjoyed nature in less than a day; "nature explorers",

who participated in a range of activities of a more passive nature; and "relaxing socializers", who shared nature activities with family and friends.

Based on our review of the literature, we considered the following hypotheses to be worth examining:

**Hypothesis 1 (H1).** *Motivations are not the same in the different ecotourism segments.*

**Hypothesis 2 (H2).** *There is a gender difference in segmentation by motivations in ecotourism.*

**Hypothesis 3 (H3).** *Ecotourism segments with higher levels of motivation have higher levels of satisfaction with and loyalty to ecotourism.*

## 3. Empirical Application

Ecuador is a country with enormous natural and cultural wealth in its four geographical regions, featuring 51 protected areas [69] that are visited by national and international tourists. The province of Guayas, located in the coastal zone of Ecuador, has important protected areas, and, for the present study, the Santay Island National Recreation Area, Morro Mangrove Wildlife Refuge, and Samanes National Recreation Area were selected. These three sites were chosen for their natural and cultural characteristics as ecotourism destinations, because they are frequently visited and they have a wide variety of attractions and ecotourism activities.

### *3.1. Santay Island National Recreation Area*

Isla Santay is located in the middle of the Guayas River, between the cities of Guayaquil and Durán in the Province of Guayas in Ecuador. This site has a wide variety of bird species, which confirms its status as a natural refuge; it is internationally recognized as a wetland of international importance (Ramsar site) since 2000. Its Ramsar declaration makes this site very important, of global interest, and a priority for conservation. This wetland is visited by waterfowl for rest, shelter, and nesting, and is home to 60 plant species, 12 reptile varieties, and 128 types of birds, of which 12 are listed as vulnerable and threatened on the International Trade in Endangered Species List and the World Conservation Union. This site is also important for its mangroves, and, among its vegetation, there are a few trees that offer protection to very rare mammals. The flora and fauna are the main ecotourist attractions, and the mangroves and marine/coastal birds are admired by the tourists while they sail through the estuaries. Another attraction is the Ecovillage, where visitors can observe crocodiles. (Figure 1).

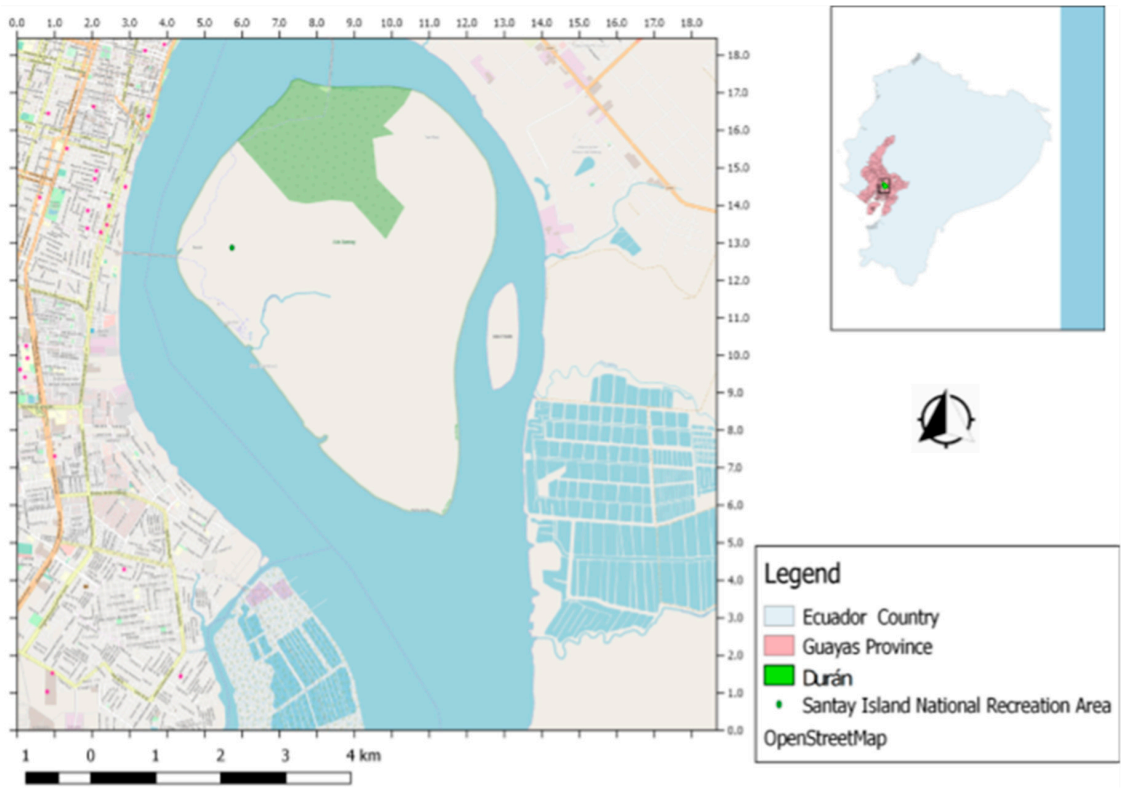


**Figure 1.** Geographic location of the Santay Island National Recreation Area.

### *3.2. Morro Mangroves Wildlife Refuge*

The Morro Mangroves Wildlife Refuge is located in the north of Guayaquil Gulf, where the Morro channel or stream begins in the province of Guayas in Ecuador. The main reason for its declaration as a protected area is the existence of a large population of dolphins that inhabit Morro channel and the frigate colony in Manglecito Island. There are four types of mangroves at this site: red, white, black, and *jelí* or button. In its mainland portion, the refuge protects a small patch of dry forest. There are more than 80 species living in this site, and seabirds are the most abundant in the refuge. Among the main attractions, visitors can observe animals such as dolphins, frigate birds, pelicans, blue-footed boobies, roseate spoonbills, white ibis, and cormorants. There are also roosts and nesting sites for frigates, pelicans, and blue-footed boobies on Manglecito Island, and it is estimated that the colony of frigates contains about 6000 individuals, which makes this site one of the highest concentrations of these birds in Ecuador. In Farallones, colonies of blue-footed boobies and pelicans appear at the entrance of the estuary. (Figure 2).

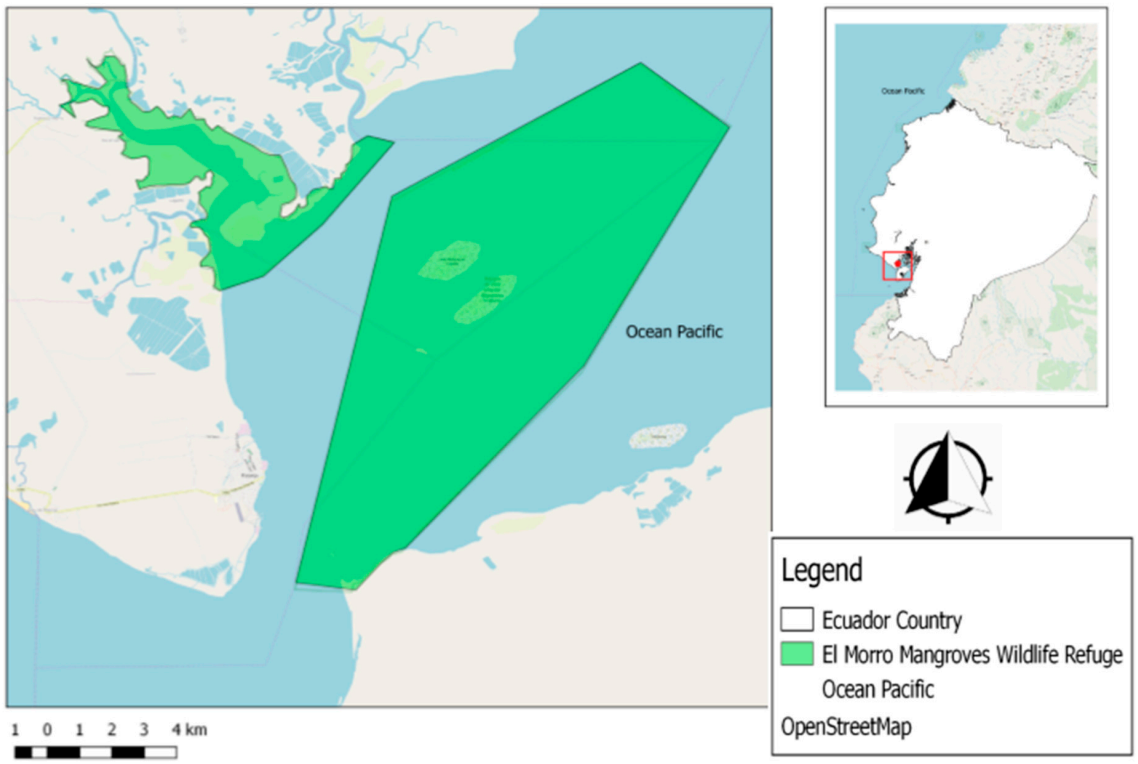


**Figure 2.** Geographic location of the Morro Mangroves Wildlife Refuge.

### *3.3. Samanes National Recreation Area*

Samanes National Recreation Area is located in the north of Guayaquil, Ecuador. There are still some remains of dry coastal forest and flood plains in this area, which are characteristic of the Guayas River basin. Dry coastal forest is particularly prevalent in the highest areas around Colorado Hill, where one can see trees such as the ceibo, bototillo, pechiche, guasmo, and even the guayacán, as well as the tree that gives the area its name, the saman. The Samanes National Recreation Area is also home to many species of waterfowl such as cormorants, whistling ducks, herons, and coots. Since its creation as a protected area, several facilities were developed to promote sports and leisure activities for the population. (Figure 3).

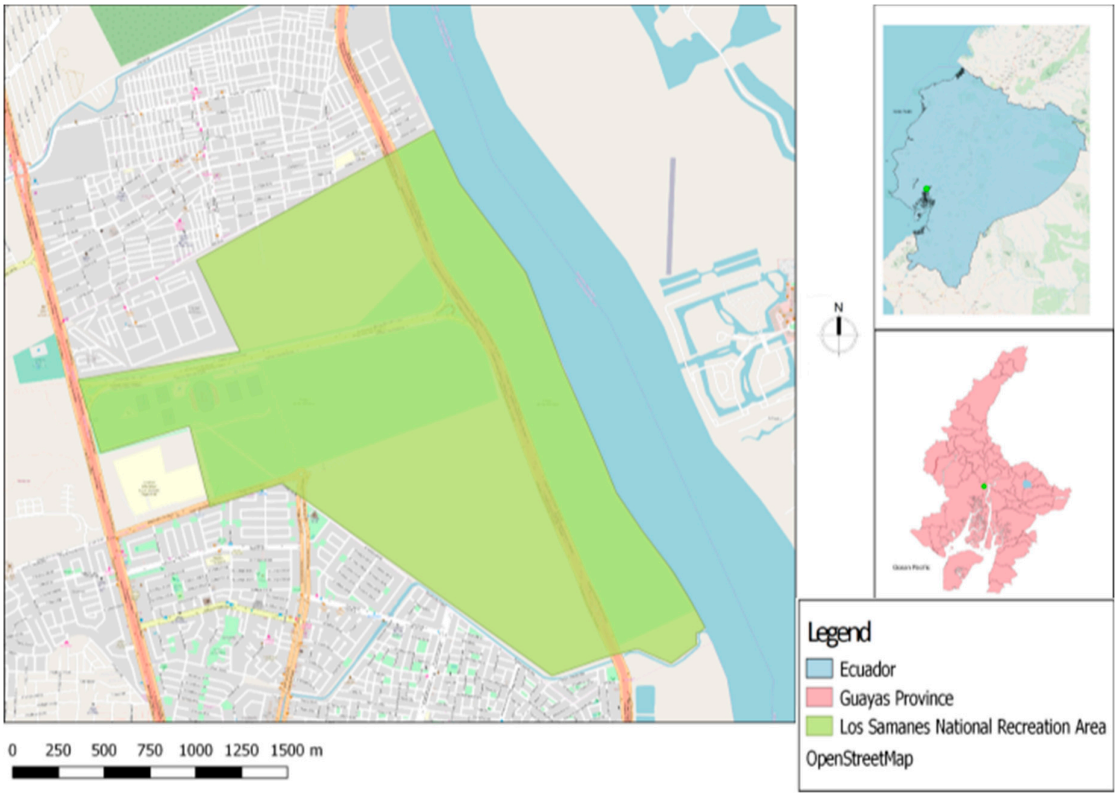


**Figure 3.** Geographic location of the Samanes National Recreation Area.

## 4. Methodology

Survey participants were drawn from national and international tourists who were visiting one of the three protected areas in Guayas province on the Ecuadorian coast: Santay Island National Recreation Area, Morro Mangrove Wildlife Refuge, and Samanes National Recreation Area.

The questionnaire for this study was divided into three parts and included items on sociodemographic aspects and characteristics of the visit, motivation, and satisfaction.

The measurement elements developed for this study were based on several previous studies about tourism motivations [30,37,45,54,70–73]. The first part of the questionnaire measured the sociodemographic and visit characteristics of the respondents. The information requested included nationality, origin, sex, age, level of training, professional activity, frequency of visits, company of people for the visit, and the expense. For this part of the questionnaire, closed questions were used. The second part of the questionnaire included 31 items that captured the motivations of the respondents. This part of the questionnaire consisted of questions based on a five-point Likert scale, where 1 was "a little" and 5 was "a lot". The third part of the survey consisted of 12 items that evaluated the level of satisfaction of various aspects of the protected areas. Multiple categories of satisfaction items were used and adapted to the destination, in addition to another subsection of six items that measured the general satisfaction and return with the recommendation of the destination. Here, we used a five-point Likert scale, where 1 was "a little" and 5 was "a lot". On the basis of a first draft of the questionnaire, and by carrying out a pre-test of 30 surveys, the final format was reached. The pre-test study served to validate the questions and improve their understanding. The final version of the questionnaire sought the maximum clarity of the questions without extending the interview of the respondents. The distribution of the surveys was carried out according to the method of simple random sampling in the protected areas, where all the tourists that were inside the protected area had the same probability of being chosen.

The surveys were distributed between January and July of 2018 to visitors in the aforementioned areas. The surveys were conducted by students of the Tourism Career of ESPOL University in

Guayaquil (Ecuador), which were previously trained by the authors of this article. The group of interviewers was supervised by an author of this investigation. The surveys were conducted in the areas of rest and feeding of the protected areas. The period of time that was used for the visitors to complete the surveys was when they were resting after having carried out ecotourism activities. The surveys were filled out autonomously by the visitors and the interviewers were very close to answer any questions. In total, 440 visitors were reached, of which 382 completed the questionnaire, which resulted in a response rate of 86.8%. In no cases did the duration of the survey exceed 15 min.

The variability of the population was estimated at 50% ($p = q = 0.5$); 382 surveys were valid and yielded the final sample size, with a margin of error of ±5% and a confidence level of 95%.

The Cronbach's alpha index reached the value of 0.96, which indicates a meritorious index for the scale. The data were analyzed in two stages: firstly, a factor analysis was carried out to identify the constructs underlying the variables, providing a global view of the most substantive motivations using such constructs. Factor analysis is widely used in visitor segmentation research [74–76]. A Varimax rotation was used to facilitate the interpretation of the data. The Kaiser criterion was used to find the number of factors, where only the factors with eigenvalues greater than 1 were used [77]. The Kaiser–Meyer–Olkin (KMO) index and Bartlett's sphericity test were used to determine if it was appropriate to perform the factorial analysis. Cronbach's alpha index was used to measure the reliability of the scale of measurement [43].

In the second stage, the K-means grouping method was implemented, which is commonly used in segmentation research [78]. The differences between the groups in relation to the motivations were evaluated by means of adequate analyses including analysis of variance (ANOVA) and the Brown–Forsythe and Welch statistics. The Games–Howell test was used for post hoc analysis. Finally, the chi square test was used to explore the differences between the groups in terms of sociodemographic variables, satisfaction, and intentions of returning to the destination. The collected data were organized, tabulated and analyzed statistically using the SPSS 22.0 program for Windows [79].

## 5. Results

To achieve the objective of this study, we developed a factorial analysis to allow the extraction of six motivational dimensions. The analysis of the main component was used for data reduction. The Varimax rotation method was used to obtain a clearer interpretation of the factors, so that each one had either very high or low factor loading. Factors taken into account in the Kaiser criterion were those with eigenvalues greater than 1.00. Six factors were part of the solution and represented 72.53% of the total variance. The KMO index (Kaiser–Meyer–Olkin) was 0.959, so it was very suitable for factorial analysis. Bartlett's sphericity test was also significant (<0.05), so factorial analysis was applicable (Table 1).

**Table 1.** Factorial analysis of motivational variables.

| Items | Loading | Eigenvalue | % Variance Explained | Cronbach's Alpha |
|---|---|---|---|---|
| **Self-development** | | 13.967 | 45.05 | 0.945 |
| To have a sense of self-confidence | 0.763 | | | |
| To gain a new perspective on life | 0.754 | | | |
| To know what I am capable of | 0.746 | | | |
| To feel inner harmony/peace | 0.69 | | | |
| To be independent | 0.689 | | | |
| To understand more about myself | 0.676 | | | |
| To think about good times I had in the past | 0.659 | | | |
| To have the opportunity to know me better | 0.647 | | | |
| **Interpersonal relationships** | | 2.596 | 8.38 | 0.914 |
| To connect with family and friends who live elsewhere | 0.768 | | | |
| To strengthen relationships with my family | 0.747 | | | |
| To reminisce about my parents' time | 0.702 | | | |
| To reflect on past memories | 0.651 | | | |

**Table 1.** *Cont.*

| Items | Loading | Eigenvalue | % Variance Explained | Cronbach's Alpha |
|---|---|---|---|---|
| To feel that I belong | 0.634 | | | |
| To follow current events | 0.545 | | | |
| To join the social discussion | 0.504 | | | |
| **Building personal relationships** | | 2.112 | 6.81 | 0.888 |
| To meet new people | 0.776 | | | |
| To know the locals | 0.742 | | | |
| To meet people with similar interests | 0.726 | | | |
| To experience different cultures | 0.602 | | | |
| To be with others if I need them | 0.583 | | | |
| **Escape** | | 1.518 | 4.9 | 0.876 |
| To get away from daily stress | 0.864 | | | |
| To escape from routine | 0.789 | | | |
| To get away from crowds of people | 0.777 | | | |
| To avoid interpersonal stress | 0.718 | | | |
| **Rewards** | | 1.165 | 3.76 | 0.786 |
| To have fond memories | 0.724 | | | |
| To explore the unknown | 0.695 | | | |
| To develop my personal interests | 0.677 | | | |
| To experience new things | 0.676 | | | |
| To have fun | 0.661 | | | |
| **Nature** | | 1.127 | 3.64 | 0.888 |
| To be close to nature | 0.872 | | | |
| To get a better appreciation of nature | 0.82 | | | |
| Total variance extracted | | | 72.53 | |
| Cronbach's alpha (total) | | | | 0.959 |

Our study found that the first factor was called "self-development" and had the greatest explanatory capacity (45.05%) of the total variance. This first dimension was related to the following motivations: to have a sense of self-confidence, obtain a new perspective on life, know own capacities, feel harmony and inner peace, be independent, gain self understanding, think of the good times experienced in the past, and have an opportunity to know oneself better. It was also related to the utilitarian function according to functional theory. The second factor was called "interpersonal relationships and ego-defensive function", which accounted for 8.38% of the total variance. This second dimension was related to family and friends who live in other places, strengthening relationships with family, remembering parents' times, reflecting on memories of the past, feeling a sense of belonging, following current events, and joining the social discussion. It was also related to the social-adjustive value and ego-defensive functions. The third factor was "building personal relationships", which accounted for 6.81% of the total variance. This third dimension was related to visitors motivated by meeting new people, getting to know the locals, meeting people with similar interests, experiencing different cultures, and being with others if necessary. In terms of functional theory, it was related to the knowledge function.

The fourth factor was called "escape" and made up 4.90% of the total variance. This fourth dimension was connected to visitors motivated to get away from daily stress, escape from routine, get away from crowds, and avoid interpersonal stress. It was also connected to the utilitarian function. The fifth factor was called "reward" and accounted for 3.76% of the total variance. This fifth dimension was related to visitors motivated by gaining good memories, exploring the unknown, developing personal interests, experiencing new things, and having fun. It was also related to the utilitarian function. The sixth and final factor was called "nature appreciation" and accounted for 3.64% of the total variance. This sixth dimension was related to visitors motivated by appreciating nature and being close to it, and it was related to the knowledge function. The six motivational dimensions identified here represent the five functions described by functional theory [50]. These results are similar to those of Reference [44], which obtained seven motivational factors in their study: self-development,

interpersonal relationships, reward, building personal relationships, escape, ego-defensive function, and nature appreciation. The findings of this study are also in line with other previous ecotourism research related to tourist motivations [28,45,72,80].

### *5.1. Demand Segmentation*

We developed a K-means non-hierarchical clustering analysis to create demand segmentation. According to the criterion of maximizing the variance between typologies and minimizing the variance within each typology, it appeared that the best solution according to the criteria was formed by the three conglomerates.

The ANOVA F statistic allows us to note that the compared means are not equal, but it does not specify where the differences are; it is based on the accomplishment of two assumptions: normality and homoscedasticity. To know if one mean differs from another, multiple post hoc comparisons must be used. Because the critical level associated with the Levene statistic was less than 0.05, the use of the Brown–Forsythe and Welch tests were necessary. Because the critical level of the two statistics was less than 0.05, we can reject the hypothesis of equality of means and conclude that the means of the motivational variables of the three conglomerates were not equal. To contrast the significant differences between the different means, the Games–Howell test was applied (Table 2).

**Table 2.** Characterization of the clusters based on the motivational variables (K-means).

| Variables | Cluster 1 | Cluster 2 | Cluster 3 | Post Hoc |
|---|---|---|---|---|
| To be close to nature | 4.8 | 4.3 | 4.1 | All except 2–3 |
| To get a better appreciation of nature | 4.8 | 4.3 | 3.9 | All |
| To experience new things | 4.8 | 4.2 | 3.8 | All |
| To explore the unknown | 4.8 | 4.2 | 3.6 | All |
| To develop my personal interests | 4.7 | 3.8 | 3.3 | All |
| To have fond memories | 4.8 | 4.1 | 3.6 | All |
| To have fun | 4.8 | 4.3 | 4.1 | All except 2–3 |
| To experience different cultures | 4.8 | 4 | 3.1 | All |
| To meet new people | 4.6 | 3.7 | 2.6 | All |
| To meet people with similar interests | 4.6 | 3.4 | 2.3 | All |
| To meet locals | 4.6 | 3.5 | 2.5 | All |
| To be with others if I need them | 4.4 | 3 | 1.9 | All |
| To have the opportunity to know me better | 4.6 | 3.4 | 1.9 | All |
| To understand more about myself | 4.6 | 3.3 | 1.8 | All |
| To gain a new perspective on life | 4.6 | 3.6 | 2 | All |
| To think about the good times I had in the past | 4.6 | 3.3 | 1.9 | All |
| To know what I am capable of | 4.7 | 3.4 | 1.9 | All |
| To have a sense of self-confidence | 4.7 | 3.4 | 1.8 | All |
| To feel inner harmony/peace | 4.8 | 3.9 | 2.8 | All |
| To be independent | 4.6 | 3.4 | 2 | All |
| To reminisce about my parents' time | 4.4 | 3.1 | 1.5 | All |
| To contact family and friends who live elsewhere | 4.3 | 3.3 | 1.6 | All |
| To feel that I belong | 4.4 | 3 | 1.6 | All |
| To strengthen relationships with my family | 4.6 | 3.3 | 2.2 | All |
| To reflect on past memories | 4.5 | 3.1 | 1.9 | All |
| To avoid interpersonal stress | 4.8 | 3.8 | 3.4 | All |
| To get away from the crowds of people | 4.8 | 3.9 | 3.3 | All |
| To get away from daily stress | 4.8 | 4.1 | 3.7 | All |
| To escape from routine | 4.8 | 4.3 | 3.9 | All |
| To join the social discussion | 4.4 | 3.3 | 2.2 | All |
| To follow current events | 4.5 | 3.2 | 2.2 | All |

Our study found that the first group included visitors with a high motivation in all the motivational variables; thus, this group was categorized as "multiple motives"; this first group was also connected to the six dimensions previously found. The second group included visitors with strong motivations related to nature, fun, experience with new things, exploring the unknown, building good memories, escaping from routine, and getting away from daily stress; thus, this group was categorized as "reward and escape"; this second group was also connected to the nature, reward,

and escape dimensions. The third group included visitors with strong motivations in aspects related to nature; thus, these were categorized as "nature"; it is not surprising that this group was also connected to the nature dimension. These results allowed us to confirm hypothesis H1: the motivations are not the same in the different ecotourism segments.

### *5.2. Relationship of the Segments with Other Variables*

In order to find the relationship of the three segments with the sociodemographic variables, a chi square significance contrast was made to find the variables that were really relevant for the analysis. (Table 3).

**Table 3.** Relationship of the three segments with sociodemographic variables (chi square).

| Sociodemographic Variables | Cluster 1 | Cluster 2 | Cluster 3 | Total | Chi Square |
|---|---|---|---|---|---|
| **Gender** | | | | | 12.593, $p < 0.05$ |
| Male | 46.50% | 32.50% | 54.20% | 42.60% | |
| Female | 53.50% | 67.50% | 45.80% | 57.40% | |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | |
| **Age** | | | | | 23.147, $p < 0.05$ |
| <20 years old | 15.00% | 8.30% | 10.40% | 11.10% | |
| 20–29 years old | 50.40% | 70.10% | 60.40% | 61.10% | |
| 30–39 years old | 20.50% | 17.20% | 21.90% | 19.50% | |
| 40–49 years old | 6.30% | 2.50% | 1.00% | 3.40% | |
| 50–59 years old | 4.70% | 0.60% | 6.30% | 3.40% | |
| >59 years old | 3.10% | 1.30% | | 1.60% | |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | |
| **Education** | | | | | 13.921, $p < 0.05$ |
| Primary | 0.80% | 0.60% | | 0.50% | |
| Secondary | 25.20% | 13.40% | 10.40% | 16.60% | |
| University | 66.90% | 82.20% | 82.30% | 77.10% | |
| Postgraduate/Masters/PhD | 7.10% | 3.80% | 7.30% | 5.80% | |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | |
| **Professional activity** | | | | | 31.341, $p < 005$ |
| Student | 45.70% | 67.50% | 61.50% | 58.70% | |
| Researcher/scientist | 1.60% | 1.30% | 2.10% | 1.60% | |
| Entrepreneur/business owner | 4.70% | 10.20% | 9.40% | 8.20% | |
| Private employee | 19.70% | 10.20% | 11.50% | 13.70% | |
| Public employee | 14.20% | 6.40% | 7.30% | 9.20% | |
| Housework | 4.70% | 1.30% | 2.10% | 2.60% | |
| Unemployed | 5.50% | 2.50% | 3.10% | 3.70% | |
| Retired | 0.80% | 0.60% | 1.00% | 0.80% | |
| Informal worker | 1.60% | | | 0.50% | |
| Others | 1.60% | | 2.10% | 1.10% | |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | |

Our study found that the first segment (multiple motives) tended to have slightly more women (53.5%) than men (46.5%). This segment was primarily between the ages of 20 and 29 years old (50.4%), with either a university (66.9%) or secondary-level education (25.2%), making it the segment with the highest level of secondary education in relation to the others. Regarding professional activity, most were students (45.7%), private employees (19.7%), and public employees (14.20%). The second segment (reward and escape) had double the proportion of women (67.5%) than men (32.5%), and this group had the highest percentages of women compared to the others. Likewise, this group was characterized by a high percentage of members between the ages of 20 and 29 years old (70.1%); this was the segment with the highest percentage of young people in relation to the others. This segment also had a high percentage with a university education (82.2%), and most were students (67.5%). The third segment (nature) tended to have more men (54.2%) than women (45.8%), and this segment had the highest percentage of men in relation to the others. Like the other segments, members of this segment tended to be between the ages of 20 and 29 years old (60.4%), and a high percentage had a university

education (82.30%) and were students (61.5%). These results verified hypothesis H2: there is a gender difference in the segmentation by motivations in ecotourism.

### *5.3. Satisfaction and Intention of Returning to the Destination in the Three Segments*

A chi square significance contrast was made to determine the relationship between the three segments and satisfaction and intention of returning, allowing us to find the variables most relevant for analysis. To measure satisfaction and return intention, a five-point Likert scale was used, where 1 was "a little" and 5 was "a lot" (Table 4).

**Table 4.** Satisfaction and intention of returning to the destination in the three segments (chi square).

| Variables | Cluster 1 | Cluster 2 | Cluster 3 | Total | Chi Square |
|---|---|---|---|---|---|
| **Satisfaction** | | | | | 39.631, $p < 0.05$ |
| 1 | 0.80% | 0.60% | | 0.50% | |
| 2 | 0.80% | 1.30% | | 0.80% | |
| 3 | 5.50% | 14.60% | 25.00% | 14.20% | |
| 4 | 35.40% | 55.40% | 40.60% | 45.00% | |
| 5 | 57.50% | 28.00% | 34.40% | 39.50% | |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | |
| **Intentions of returning** | | | | | 39.067, $p < 0.05$ |
| 1 | | 0.60% | | 0.30% | |
| 2 | 1.60% | 0.60% | 7.30% | 2.60% | |
| 3 | 5.50% | 18.50% | 18.80% | 14.20% | |
| 4 | 25.20% | 40.10% | 28.10% | 32.10% | |
| 5 | 67.70% | 40.10% | 45.80% | 50.80% | |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | |

Our study found that the first segment (multiple motives) tended to have a high percentage of very satisfied members (57.5%), and it was the segment with the highest level of satisfaction in relation to the others. It also had the highest level of intention of returning to the destination (67.7%) in relation to the other segments. The second segment (reward and escape) was characterized by a high percentage of its members who were satisfied (55%), and a considerable percentage of its members had a high level of intention of returning to the destination (40.1%). The third segment (nature) was characterized by a moderate percentage of satisfied members (40.6%), with a moderate percentage who intended to return to the destination (45.8%), which was higher than the second segment, but lower than the first segment. These results validated hypothesis H3: the segments with higher levels of motivation, have higher levels of satisfaction and loyalty in ecotourism.

## 6. Discussion and Conclusions

The segmentation of demand in ecotourism allows the differentiation of tourists by their motivations, which provides relevant information for companies involved in tourism. This tool can also be used to make marketing planning more efficient, improve the supply of tourism products, and increase tourist levels of satisfaction and loyalty. There were several motivational dimensions in ecotourism. The main motivational dimension was self-development, which was related to the motivators of gaining self-confidence and being independent. This dimension also had the highest motivational levels in ecotourism. Self-development could also be considered the pursuit of personal growth and the desire to learn and interact with a host culture and its community [39,81–84]. The second dimension was interpersonal relationships and ego-defensive function, and this was related to visitors motivated by strengthening relationships with family members and following current events. The third dimension was building personal relationships, which was related to visitors motivated by meeting new people [72]. The fourth dimension was escape, which was related to visitors motivated by escaping from routine; many tourists were motivated to travel to escape their daily routines and

stress [37,84,85]. The fifth dimension was reward, which was related to visitors motivated by having fun and experiencing new things. This indicates that tourists traveled to reward themselves and take a break [86]. The sixth dimension was nature appreciation, which was related to visitors motivated by a desire to appreciate nature. It is often found that the appreciation of the natural environment is the predominant motivation for ecotourists [23,87]. These findings are similar to those of Reference [44].

Self-development was the main motivational factor in this study unlike others. Among them, Ma et al. [46] found that the most important motivation in Chinese visitors was "getting close to nature". In contrast, Ma et al. [47] found that the most important factor in Chinese tourists was "relaxation and nature exploration". On the other hand, Chow et al. [48] conducted a study for visitors to the Ramsar wetland in Hong Kong and discovered that the most important motivations were relaxation, escape from daily life, and physical and mental health. Although this study did not coincide with others in a relationship with the main motivational factor, they did coincide with other motivational factors, such as those related to nature.

In relation to demand segmentation, the "multiple motives" segment found in this research, with high motivation in all motivational variables, was similar to the "multiple motives" segment found in Cordente-Rodríguez et al. [64], who presented high motivations in all motivational variables. In addition, it was similar to the "eclectic adventurers" segment, found in Gu et al. [67], who were interested in a wide range of motivations. Also, these results were similar to the "want-it-all tourists" segment found in Jeong et al. [68], who had high scores in all motivational factors. Therefore, these authors reinforced one of the findings found in this study, whereby there is a segment in ecotourism interested in all the motivations.

The "nature" segment in the present study, which had high motivations in aspects related to nature, was similar to the nature segment found in Cordente-Rodríguez et al. [64], motivated by nature. Likewise, it was similar to the "nature travelers" segment, found in Gu et al. [67], who were interested in experiencing nature and appreciating natural landscapes. Also, these results were similar to the segment "nature-seeking tourists" found in Jeong et al. [68] who only obtained high scores for the nature factor. In addition, it was similar to the "naturalist" segment found in Barić et al. [66], for whom the enjoyment of nature was the most important. Therefore, these authors reinforced the finding that exists in ecotourism, whereby a segment is interested only in nature.

The present study also found a third segment, "reward and escape". We, therefore, recommend the adaptation of a range of products or services related to fun, exploring the unknown, and escaping from routine.

Also, there are studies in the literature, where the groups found differed from this study. These studies were conducted by Weaver and Lawton [28] and confirmed by Sheena et al. [65]. They found three groups: "hard" ecotourists, who showed great affinity for conservation, were physically active, and enjoyed challenging activities; "soft" ecotourists, who were not very physically active and liked comfort; and "structured" ecotourists, who were physically similar to the "hard" ecotourists, but liked the comfort, similar to the "soft" ecotourists. However, more studies in the literature that differentiate the groups by intensity and fondness for ecotourism are lacking.

Segmentation is an important instrument that is used to plan appropriate marketing strategies [5]. For managers of tourism and leisure areas, market segmentation can be used to guide the provision of facilities and services, planning, marketing, and communication for a more profitable and efficient management [88–90]. The knowledge of this diversity of visitors can help planners and managers become aware of the development of planning and commercialization with more appropriate strategies [24,91]. In addition, segmentation aims to facilitate more effective marketing cost by formulating, promoting, and delivering specifically designed products and services that meet the needs of target groups identified [5].

In conclusion, ecotourism visitors can be divided into three groups based on motivation. Firstly, there is a multiple motives group, with high motivation in all the motivational variables; thus, a range of products or services should be adapted to tourists seeking to practice or participate in all the

activities carried out in the protected areas. Secondly, there is a nature group, with high motivation in aspects related to nature, for whom products or services specifically for those who seek the enjoyment of nature, such as the observation of flora and fauna, are indicated. Thirdly, there is a reward and escape group, with high motivation related to nature, fun, exploring the unknown, and escaping from routine. It, therefore, appears that the motivations are not the same for the different ecotourism segments.

The segments differed in terms of sociodemographic variables. The multiple motives segment was characterized by a larger percentage of women than men, which indicates that women had stronger motivations than men [56]. Most people in this segment tended to be young, with either university or secondary-level education, and they were employed as students, private employees, or public employees; thus, they were interested in more activities than the other segments. The reward and escape segment was characterized by having the highest percentage of women in relation to the other segments; it was also the segment with the highest percentage of young, university-educated people in relation to the other segments. Most people in this segment tended to be students. By contrast, the nature segment was characterized by the highest percentage of men; however, like the reward and escape segment, people in this segment tended to be young and university-educated or employed as students. We can, therefore, conclude that there is a gender distinction in motivation for ecotourism: women seek more nature together with fun (i.e., they tend to belong to the reward and escape segment) and men seek only nature (i.e., they tend to belong to the nature segment).

In terms of satisfaction, the multiple motives segment had the highest percentage of very satisfied members and the highest percentage with high levels of intention of returning to the destination compared to the other segments. It, therefore, appears that segments with higher levels of motivation have higher levels of satisfaction and intention of returning to an ecotourism destination. Finally, the results for demand segmentation corroborated the views of other academics in the field, who concluded that visitors to protected areas were not homogenous [24,28].

The practical implications of this study include its usefulness in helping tourism managers establish marketing strategies and, thus, improve services according to the main motivations of each segment, which will increase the drive to visit these protected areas. Based on the results of this study, tourism managers may also be able to adapt their offerings based on the motivations and sociodemographic variables of the demand segments, which will increase the tourists' level of satisfaction and the interest to return to these protected areas.

The short duration and focus on a narrow geographic area are among the limitations of this study, which hinder its generalizability. Future research should carry out a more specific study of the offered products adapted to the proposed segmentation.

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