



Evaluation of the Importance of rural tourist attractions in Riobamba Canton, Ecuador

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Abstract

This study aims to evaluate the most important rural tourist attractions of the rural parishes of the Riobamba canton and determine the preferences of tourists regarding rural tourism destinations. Therefore, this research was developed in the 11 parishes of the Riobamba canton, in the province of Chimborazo, Ecuador. The field phase was carried out in the Chimborazo Fauna Reserve because the location is related to the object of the study, which was the tourist cohort attending to the area. The administration of all the questionnaires to more than 700 respondents was part of the data collection activity, which resulted in a computed sample of 500 completed questionnaires. For the visual perception section, a set of 11 photographs were extracted which were describing the most visited tourist attractions in 11 rural parishes of the Riobamba Canton and shown to the respondents. The study result shows that natural tourist attractions such as the Chimborazo volcano and Altar volcano were the best rated, while cultural attractions such as “El Churo” viewpoint and “Virgen de las Nieves” church were rated with the lowest score by respondents. The result reveals that tourists are concerned about the security and safety of the destination, the accommodation price, and the variety of services that play a vital role in selecting a tourist destination. The finding shows that entertainment facilities, adventure facilities, hiking, and cultural attractions are considered to be important aspects for all tourists. Finally, these evaluations may be useful for tourists, the local population, and government entities in generating added value on the tourist attractions of greater importance while improving those of lesser importance.

Keywords Rural tourism · Riobamba canton · 11 parishes · Visual preferences · Tourist attractions

1 Introduction

Tourism is an important component in the development processes of many countries, which also plays a significant role in global economic growth, inclusive development, and sustainability (Gupta and Vegelin 2016). Many countries in the world (e.g., Canada, China, Thailand, and Turkey) prioritize the growth of the tourism sector and consider it an important component of the national economy. The local tourist destinations' economies may benefit from the tourism sector's quick development (Dogru et al. 2021; Kyrlyov et al. 2020).

People are drawn to tourism in natural places because they prefer it to a stressful pace of life and a dirty metropolitan environment (Brown et al. 2021).

The United Nations World Tourism Organization (UNWTO) (2020) understands that rural tourism is defined as “a sort of tourism activity where the visitor's experience is connected to a wide range of goods typically connected to outdoor recreation, farming, rural culture, and sightseeing.” “Activities related to rural tourism are conducted in non-urban (rural) areas that have the following characteristics: (a) low population density; (b) an agricultural and forestry-dominated landscape and land use; and (c) a traditional social structure and way of life. Rural tourism has great potential to promote regional economic development and social transformation because it complements other economic activities and contributes to GDP and employment creation (Manzoor et al. 2019). Rural tourism will lead to the integration of several ecosystem services. For many tourists, natural and cultural landscapes represent a vital element of the modern present and a sanctuary of the past (Weyland

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et al. 2021; Adhika and Putra 2020). “Landscape” is one of the most important types of places in contemporary tourism, and spectacular natural areas are typical tourist landscapes (Luo and Li 2021; Ren et al. 2018).

In South America, countries such as Ecuador, Colombia, and Peru have developed tourism activities that are mainly associated with the Andes Mountains and the Amazon region (Navarro et al. 2020). Ecuador has the potential to grow its tourism industry because of its abundance of natural and cultural resources. While Ecuador is known for its enormous natural and cultural diversity, which makes it an important tourist destination on a global scale, the coast, Andes, Amazon, and Insular Regions offer tourism opportunities related to the sun and beach, ecotourism, agrotourism, ethnic-tourism, and community-based tourism (Castillo et al. 2021a, b, c; Hernández et al. 2021). Ecuador has a certain advantage over other competitors in the tourism sector, being one of the 17 countries with the greatest biodiversity or biological wealth on the planet (Mestanza et al. 2020). The country has important biomes and ecosystems such as dry and humid tropical forests, savannas, mountain forests, highlands, and mangroves (Aguado et al. 2018; Tapia et al. 2016). In Ecuador, the province of Chimborazo offers a wide range of natural and socio-cultural attractions. That is, Ecuador has many opportunities based on the landscape to develop its tourism industry (Rivera 2017). Rural community tourism has helped local communities grow. However, there are many shortcomings in the infrastructure and basic facilities (tourist information, adequate signage, organization, accommodation, comfort, and safe recreation, among others) that have produced a product of little interest for not only countries around the world but also Ecuador, and this has an impact on the visit of domestic and foreign tourists (Martinez et al. 2020). Hence, it is necessary to continually assess tourists’ perceptions of the landscape since knowledge and understanding of tourists’ preferences regarding rural tourist destinations and expectations can lead to better tourism planning. Therefore, this study aims to evaluate the most important rural tourist attractions in the rural parishes of the Riobamba canton and determine the preferences of tourists regarding rural tourist destinations. In this sense, this study was to evaluate visual perception through a hierarchical scale of the importance that tourists gave to tourist attractions in the rural sector of Riobamba.

The major contributions of this paper are as follows:

- Evaluated the most important rural tourist attractions of the 11 rural parishes of the Riobamba canton and determined the preferences of tourists regarding rural tourism destinations.
- For the visual perception section, a set of 11 photographs were extracted that described the most visited tourist attractions in 11 rural parishes of the Riobamba Canton.

- The data processing and analysis are done mainly by correspondence analysis and developing distributions of the relative importance of ratings for visual preferences on rural tourist attractions in the Riobamba Canton.
- Based on socio-demographic parameters, the Mann–Whitney U test and the Kruskal–Wallis test were used to determine significant differences in the perceptions of the attractiveness elements for rural destinations.

The remaining section of the paper is structured in the following manner. In Sect. 2, a literature review is presented. The methods are discussed in Sect. 3. The results are presented in Sect. 4. The discussion is presented in Sect. 5. Finally, the sixth section concludes the article.

2 Literature review

Castillo et al. (2021a, b, c) evaluated the importance of 38 smart tourism tools in the Riobamba Canton, Ecuador. Based on the experiences of both domestic and foreign visitors, the Chimborazo Fauna Reserve (Canton of Riobamba, Ecuador Region) was chosen for a questionnaire study to assess the significance of 38 smart tourism instruments. The study discovered differences in the importance of smart tourism tools between these two groups.

Gavilanes et al. (2021a, b) assessed the perceptions of residents about the land management systems used in Ecuador’s rainforest area—namely, natural (unmanaged) forests, managed forests, pasturelands, and croplands. The study’s evaluation is based on the visual rating. The 12 photographs were chosen at random from a huge collection for the visual perception component, and the respondents were asked to rate how much they liked each one after viewing it. The study found that rainforest areas, such as natural forests, were highly rated by respondents, while managed forests were rated the lowest.

Hernández et al. (2021) examined the quality and supply of community-based tourism in the Ecuadorian canton of Riobamba’s rural parishes. The methodology used was interpretative, documentary, and descriptive. The study’s findings indicate a lack of tourism organization in the rural parishes of Calpi, Cacha, and San Juan in the canton of Riobamba.

Vizueté et al. (2019) measured the perceived ability to offer cultural services and the frequency of usage from the perspective of communities located in Ecuador’s Chimborazo Wildlife Production Reserve, through a questionnaire survey. The findings show that Chimborazo Mountain dominated the preferences in use and has the greatest capacity to provide cultural services, among the 10 selected tourist attractions.

Dupont et al. (2015) analyzed whether landscape experts with knowledge and expertise (professional) in

landscape-related topics observe landscapes differently from ordinary people and how this is reflected. For this purpose, they conducted an eye-surveillance experiment in which naturalists and ordinary people were asked to look at several landscape photographs. An eye-surveillance experiment reveals a significant difference in the patterns of viewing landscape photographs between landscape experts and the general public.

Poruțiu et al. (2021) determined the preferences of tourists regarding rural tourism destinations in Romania. The questionnaire survey was conducted among tourists from rural areas of Cluj County. The results have proven that tourists prefer to travel in small groups, particularly during the summer. The study reveals that tourists are concerned about the security and safety of the destination, and the price of the accommodation also plays a vital role in selecting a tourist destination.

Demirovi et al. (2019) determined the motives for attracting tourists to rural areas in the province of Vojvodina, northern Serbia. The data were collected from 476 rural tourists through a questionnaire survey. The results indicate that the rural environment is one of the important reasons for choosing rural areas for vacation, but the possibility of undertaking adventure or adventure activities is the least motivating factor.

3 Methods

3.1 Study location

The Chimborazo Fauna Reserve, which is close to Riobamba City, the headquarters of the Riobamba Canton and the Province of Chimborazo (Fig. 1), was the location of the data gathering activities. Riobamba Canton is one of ten cantons of the Chimborazo Province in Ecuador. Riobamba is the capital of Chimborazo province (Fig. 1). The Riobamba canton is divided into 16 parishes, 5 urban parishes, namely, Veloz, Velasco, Maldonado, Lizarzaburu and Yaruquies, and 11 rural parishes, namely, Licán, Calpi, San Juan, Cubjías, Quimiag, Cacha, San Luis, Punín, Licto, Flores and Pungalá (Instituto Nacional de Estadística y Censos. INEC; Gobierno Autónomo Descentralizado Municipal del). The Riobamba Canton is surrounded by magnificent scenery and mountains; each of its parishes has a rich natural and cultural heritage; the parish of Santiago de Quimiag provides one of the best direct accesses to “El Altar” and its lake complex. The average temperature is 13 °C and its altitude is 2754 m above sea level (Vega and Jara 2009; Perez et al. 2020) Riobamba is surrounded by several volcanoes such as Chimborazo, Tungurahua, Altar, and Carihuairazo (Carrion et al. 2021).

The rural sector of Riobamba has several tourist attractions that attract the attention of residents and visitors, where

the Chimborazo volcano is the most frequented tourist attraction in the Chimborazo Fauna Reserve (Castillo et al. 2020, 2019; Castillo et al. 2021a, b, c). The field phase was carried out in the Chimborazo Fauna Reserve because the location is related to the object of the study, which was the tourist cohort attending to the area. According to the latest data, 127,853 tourists visited the Chimborazo Fauna Reserve in 2017, of which 83% were nationals and 17% foreigners (Ministerio del Ambiente del Ecuador).

3.2 Landscape features under evaluation

According to Castillo et al. (2021a, b, c) in the study area, there are ninety-eight tourist attractions classified as natural (48.98%) and cultural (51.02%) attractions. In addition, these attractions are hierarchically distributed into four categories from least to greatest importance: I (46.94%), II (48.98%), III (1.02%), and IV (3.06).

The average number of tourist attractions per parish is 8.91. Nevertheless, based on the information provided by management plans of the rural parishes of Riobamba canton (Castillo et al. 2021a, b, c; Gobierno Autónomo Descentralizado Parroquial de Cacha; Gobierno Autónomo Descentralizado Parroquial de Calpi; Gobierno Autónomo Descentralizado Parroquial de Cubjías; Gobierno Autónomo Descentralizado Parroquial de Flores; Gobierno Autónomo Descentralizado Parroquial de Licán; Gobierno Autónomo Descentralizado Parroquial de Licto; Gobierno Autónomo Descentralizado Parroquial de Pungalá; Gobierno Autónomo Descentralizado Parroquial de Punín; Gobierno Autónomo Descentralizado Parroquial de Quimiag; Gobierno Autónomo Descentralizado Parroquial de San Juan; Gobierno Autónomo Descentralizado Parroquial de San Luis), a set of 11 photographs were extracted which were describing the most visited tourist attractions in correspondence with the hierarchy and the attributes of each place (Castillo et al. 2021a). For a better understanding, Fig. 1 illustrates the pictures of the tourist attractions in correspondence with the rural parishes.

3.3 Data collection

The field phase was carried out in the Chimborazo Fauna Reserve because the location is related to the object of the study, which was the tourist cohort attending to the area.

To collect the primary data, this study adopted the questionnaire method. Questionnaires are a valuable research tool for obtaining information about the perceptions of tourists and have been used in many previous studies (Leco et al. 2013; Demirović et al. 2019; Carneiro et al. 2015; Poruțiu et al. 2021). The research was based on a questionnaire administered to two groups of tourists: national and

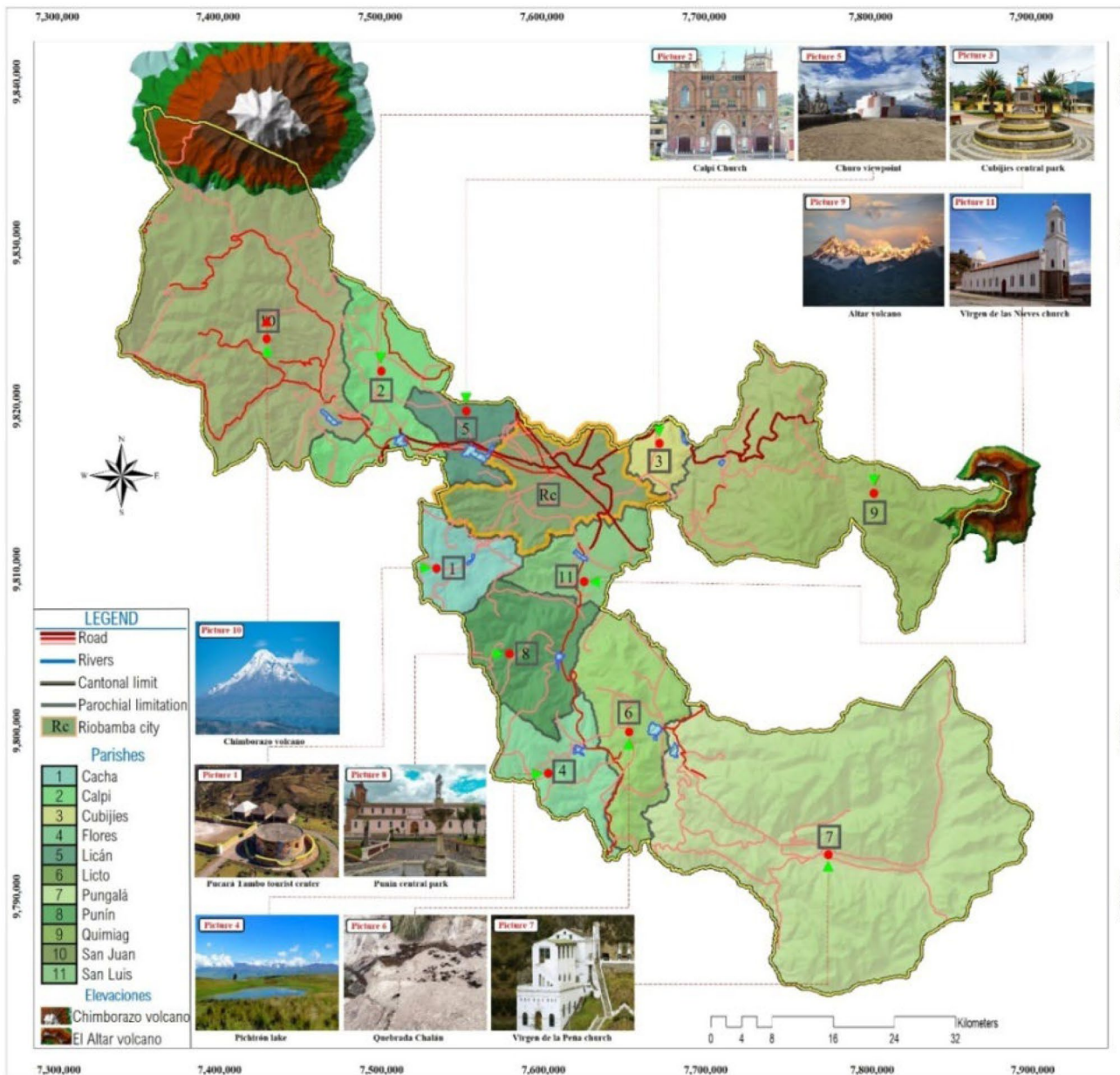


Fig. 1 Location of the study area

foreign tourists who visited the Riobamba Canton over three months.

The questionnaire is divided into two sections: The first sections contain information regarding the socio-demographic characteristics of the respondents. The social and demographic conditions of the respondents were built by taking into account variables such as; (i) gender, (ii) provenance, (iii) residency, (iv) age, (v) Socio-Professional Status, (vi) education level, (vii) level of monthly income and viii) travel with children. The second section of the questionnaire contains 11 items to determine the attractiveness of rural destinations. Each item was evaluated based on the 5-point

Likert scale from 1 to 5, where 1 indicates not important at all and 5 indicates very importantly.

For the visual perception section, a set of 11 photographs were extracted which were describing the most visited tourist attractions in 11 rural parishes of the Riobamba Canton and shown to the respondents to evaluate how much they liked each of them, using a Likert scale from 1 to 5, where 1 stood for “not at all” and 5 for “very much”.

The administration of all the questionnaires to more than 700 respondents was part of the data collection activity, which resulted in a computed sample of 500 completed questionnaires after rejecting the incomplete questionnaires.

3.4 Data processing and data analysis

The data processing and analysis are done mainly by correspondence analysis and developing distributions of the relative importance of ratings for visual preferences on rural tourist attractions in the Riobamba Canton. For this purpose, we developed a database in Microsoft Excel®, including the sociodemographic variables and the ratings of importance given to the photographs of the tourist attractions. Based on the visual preferences of the respondents, descriptive statistics were obtained. Based on sociodemographic parameters, the Mann–Whitney U test and the Kruskal–Wallis test were used to determine whether there were any significant differences in the perceptions of the attractiveness elements for rural destinations. The SPSS Statistics for Windows, Version 23.0 were used for data analysis.

4 Result

4.1 Social and demographic features of the respondents

The main social and demographic features of the respondents are detailed in Table 1. As shown, 50.80% of the respondents were female and 49.20% were male. The majority of the respondents are from the same ethnic group (81.60%). Most of the respondents are national tourists (83.00%).

Regarding the residency of the respondents, it was noted that the majority of the respondents were from rural areas (52.70%). Regarding the age of the respondents, the majority of the respondents were 18–30 years old (56%) in this case. Regarding the socio-professional status, students had the highest percentage of respondents (49.20%), followed by employees (23%), entrepreneurs (17.80%), and the unemployed (10.00%).

The dominant level of education was bachelors or more (69.00%), followed by high school (21.40%), secondary (9.20%), and primary (0.40%). Most of the respondents declared that they earn from \$401 to \$1086 (41.40%), followed by the respondents that declared that they have a salary equal to a basic salary (\$400) or less (34.40%), and the difference corresponds to a value greater than \$1087.

Descriptive statistics of the socio-demographic features such as age, annual spending, and monthly income are shown in Table 2.

4.2 Relative frequencies on importance of tourist attractions

Table 3 shows the levels of importance assigned to each tourist attraction through the photographs shown to tourists.

Table 1 The socio-demographic condition of respondents

Feature	Item	Total	
		N	%
Gender	Male	246	49.20
	Female	254	50.80
Provenance	National	415	83.00
	International	85	17.00
Residency	Rural	261	52.20
	Urban	239	47.80
Age	18–30 Years Old	280	56.00
	31–45 Years Old	121	24.20
	46–60 Years Old	91	18.20
	Above 60 Years Old	18	3.60
Socio-Professional Status	Entrepreneur	89	17.80
	Student	246	49.20
	Unemployed	50	10.00
	Employee	115	23.00
Education Level	Primary	2	0.40
	Secondary	46	9.20
	High School	107	21.40
	Bachelor Or More	345	69.00
Level Of Monthly Income	≤400	170	34.00
	401–1086	207	41.40
	1087–2172	90	18.00
	2172–3258	7	1.40
	3259–4344	6	1.20
	>4344	20	4.00
Traveling with children	Yes	1	26.80
	No	366	73.20

Table 2 Descriptive statistics about the social and demographic characteristics of respondents

Parameter	Age	Yearly spending	Monthly income
Mean	35.21	389.77	916.08
Median	35	150	650
Mode	40	100	800
Range	49	4980	5430
Min	16	20	70
Max	65	5000	5500
Standard Deviation	11.29	668.21	992.78

The analysis shows that natural tourist attractions such as the Chimborazo volcano and Altar volcano were the best rated, while cultural attractions such as “El Churo” viewpoint and “Virgen de las Nieves” church were rated with the lowest score by respondents. The best-rated rural tourist attractions such as the Chimborazo volcano and Altar volcano were the most popular tourist attractions, located in the parishes of San Juan and Quimiag. On the other hand, the less important

Table 3 Shares of importance level by a tourist attraction

Number of pictures	Tourist attraction	Parish	Level of importance										
			1	2	3	4	5	6	7	8	9	10	11
1	Pucará Tambo tourist center	Cacha	12,00	14,00	10,60	16,60	7,20	5,40	12,20	9,60	11,40	0,80	0,20
2	Calpi church	Calpi	11,00	4,80	5,20	4,40	3,20	8,20	5,00	21,80	34,80	1,20	0,40
3	Cubijíes central park	Cubijíes	5,60	14,00	7,20	4,00	32,60	15,00	11,00	5,80	2,80	1,60	0,40
4	Pichirón lake	Flores	7,60	13,80	30,80	8,20	10,00	11,40	6,00	10,60	1,20	0,40	0,00
5	San Francisco de Macají viewpoint	Licán	21,60	8,40	10,40	29,80	4,40	6,60	10,00	5,20	3,60	0,00	0,00
6	Quebrada Chalán	Licto	15,20	18,80	7,40	10,20	6,00	12,60	18,00	9,60	1,60	0,00	0,60
7	Virgen de la Peñachurch	Pungalá	1,00	0,60	1,20	9,40	8,60	7,40	16,80	28,40	25,00	1,40	0,20
8	Punín central park	Punín	0,60	12,20	15,40	9,40	21,20	21,60	9,00	5,00	4,20	0,20	1,20
9	Altar volcano	Quimiag	0,20	0,00	0,00	0,00	0,00	0,00	0,00	0,40	2,60	53,80	43,00
10	Chimborazo volcano	San Juan	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,20	5,60	40,40	53,80
11	Virgen de las Nieveschurch	San Luis	25,20	13,40	11,80	8,00	6,80	11,80	12,00	3,40	7,20	0,20	0,20

tourist attractions such as the “Virgen de las Nieves” church and the “Quebrada de Chalán”, are located in the parishes of San Luis and Licto, respectively.

Considering the categories of tourist attractions are natural and cultural, the preferences of the two highest levels of importance recognize mainly natural attractions such as the Chimborazo and Altar volcanoes. Whereas, at all other levels of importance, there was a predominance of cultural attractions, as shown in Fig. 2.

4.3 Analysis of the attractiveness of the rural destination

In Table 4, the safety and security of the destination were very important elements in selecting a tourist destination (mean > 4). The entertainment, tourist adventure facilities, and hiking of the destinations are also the most important factors attracting tourists. The variety of services and the cost of lodging at the destinations are important factors in a tourist attraction. High importance scores were attributed to the accommodation price (mean > 4). The result shows that almost half of the respondents believed that the variety of entertainment alternatives (F1) inside a tourist area was extremely essential (mean > 4) (Table 4). In addition, individuals traveling without children (4.29) placed a higher value on the variety of entertainment options than those traveling with children (3.74) ($p < 0.05$). Groups that were traveling with children were more preoccupied with the variety of services (4.70) and the security and safety of the destination (4.90), but there were no significant statistical differences between these two groups. This result shows that there are correlations between this characteristic and tourism adventure facilities (F4) and cultural attractions (F6, $p < 0.05$). Groups that were traveling with children were more preoccupied with the variety of services (4.70) and

the security and safety of the destination (4.90), but there were no significant statistical differences between these two groups.

Table 5 shows that tourism adventure facilities (F4) are statistically significant among age groups ($p < 0.05$) because adventure facilities refer to younger people. The residency feature also has statistical relevance with regard to farm tour alternatives (F2) and religious attractions (F7), demonstrating how urban and rural people have different perceptions of how attractive a very rural aspect of a destination is. Additionally, more than a quarter of respondents (29.9%) believe that religious attractions (F4) have little bearing on how desirable a rural location is.

5 Discussion

This study evaluates visual perception related to the most important tourist attractions in the rural parishes of the Riobamba canton in Ecuador through a hierarchical scale of importance and determines the preferences of tourists regarding rural tourism destinations. An important aspect that must be deeply analyzed concerns the importance of the attraction factors for tourist attractions in Riobamba, Ecuador. The respondents mentioned the “security and safety” factor as the most important factor when choosing a rural destination. The second and third most important factors for the respondents were the “entertainment and adventure facilities” offered by the rural areas. Mann–Whitney U test and Kruskal–Wallis test were used to analyze whether there were significant differences in perceptions of attractiveness factors for rural destinations based on socio-demographic characteristics. The result also shows that tourist adventure facilities are statistically significant among age groups because adventure facilities refer to younger people. The fourth most

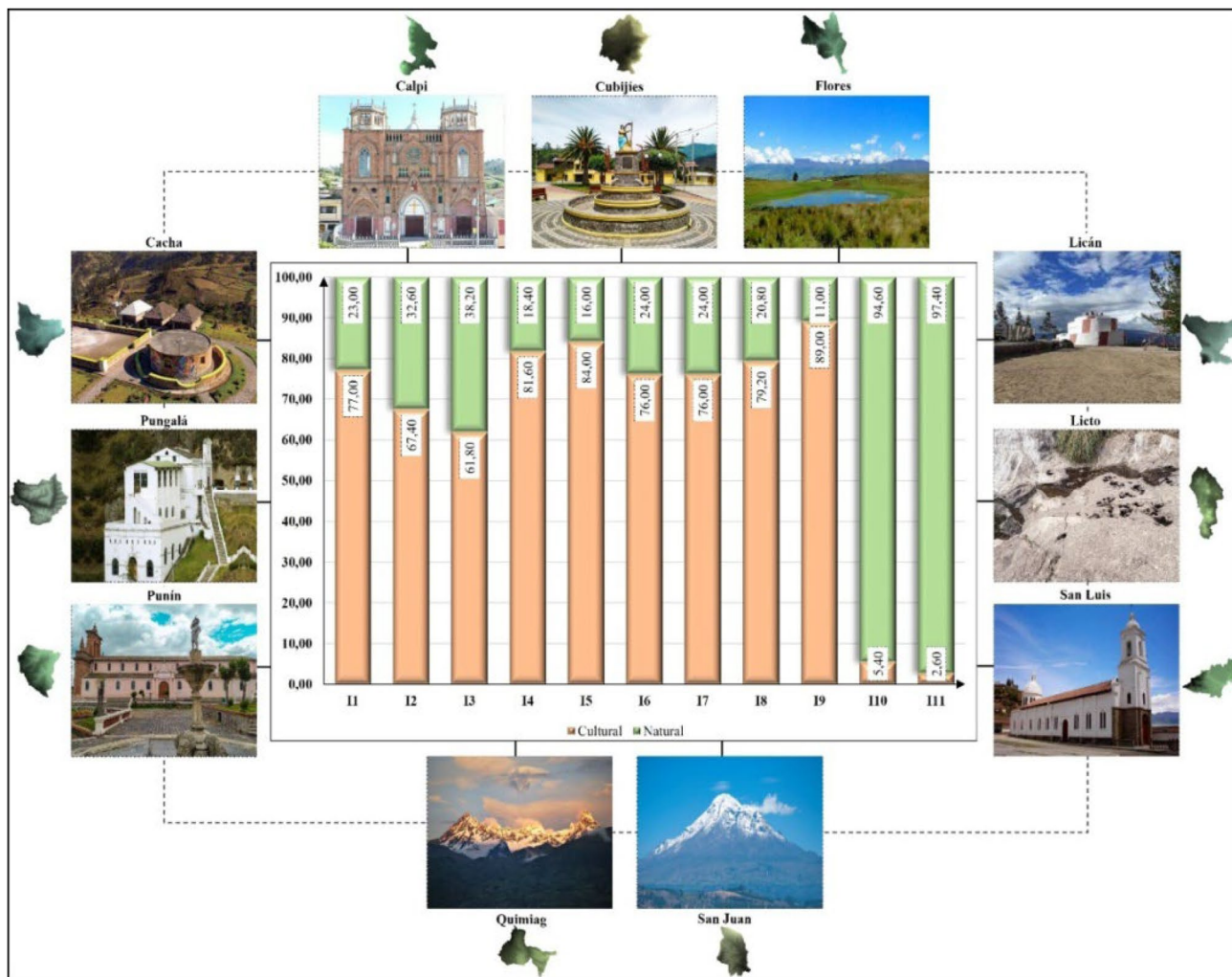


Fig. 2 Shares of importance according to the category of tourist attraction

important factor is the accommodation price, and the fifth most important factor is the variety of services provided

Table 4 Attraction factors

Features (F)	Mean	Standard Deviation
Variety of Entertainment (F1)	4.28	0.933
Farm Tours Options (F2)	3.44	1.275
Ecotourism Facilities (F3)	3.48	1.184
Tourism Adventure Facilities (F4)	4.49	0.747
Hiking (F5)	4.05	0.922
Cultural Attraction (F6)	3.78	1.234
Religious Attractions (F7)	2.59	1.131
Accommodation price (F8)	4.18	0.862
Variety of Services (F9)	4.10	0.847
Security And Safety (F10)	4.80	0.541
Distance From Home (F11)	3.91	0.994

in the accommodation. The analysis shows that groups that were traveling with children were more concerned about the variety of services and the security and safety of the destination. The result shows that the residency feature also has statistical relevance with regard to farm tour alternatives and religious attractions, demonstrating how urban and rural people have different perceptions of how attractive a very rural aspect of a destination is. Entertainment facilities, adventure facilities, and cultural attractions are considered to be important aspects for all tourists, especially for the ones traveling without children.

Environmental perceptions are understood as to how each individual appreciates and values their environment, and they significantly influence human decision-making about the environment that surrounds them (Dlamini et al. 2020). In this context, a study carried out by Tyrvaainen et al. (2014) and Juutinen et al. (2011) indicate that the beauty of the landscape was of the highest importance,

Table 5 Results of the Mann–Whitney U test and the Kruskal–Wallis test of socio-demographic characteristics and attraction factors

Characteristics	Category	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
Gender	Female	4.39	3.52	3.63	4.05	3.93	3.91	2.77	4.27	4.57	4.85	3.98
	Male	4.06	3.28	3.17	3.99	3.99	3.49	2.28	3.99	4.31	4.71	3.99
	P-Value	0.147	0.417	0.098	0.490	0.861	0.244	0.097	0.198	0.244	0.98	0.947
Age	18–30 Years	4.30	3.42	3.51	4.13	3.87	3.87	2.64	4.13	4.45	4.78	3.97
	31–45 Years	4.54	3.66	3.66	3.66	4.21	3.54	2.32	4.54	4.66	4.88	4.21
	46–60 Years	3.88	3.43	3.10	2.99	4.32	3.32	2.66	4.21	4.66	4.88	4.10
	Above 60 Years	3.78	3.33	3.00	2.89	4.22	3.22	2.56	4.11	4.56	4.78	4.00
	P-Value	0.425	0.836	0.738	0.018*	0.294	0.606	0.796	0.360	0.531	0.606	0.677
	Residency	Urban	4.34	3.00	3.39	4.15	3.81	3.84	2.17	4.34	4.41	4.81
Socio- professional status	Rural	4.23	3.67	3.57	3.92	3.99	3.72	2.82	3.99	4.57	4.79	4.03
	P-Value	0.608	0.009**	0.539	0.566	0.389	0.936	0.025*	0.119	0.226	0.826	0.904
	Student	4.29	3.41	3.56	4.12	3.81	3.77	2.68	4.23	4.37	4.75	3.85
Travelling with children	Employee	4.29	3.35	3.29	4.01	4.10	3.91	2.54	4.13	4.66	4.82	4.19
	Entrepreneur	4.30	4.10	3.70	3.30	4.30	2.90	1.70	4.30	4.50	5.10	4.50
	Unemployed	4.10	4.10	4.10	4.10	4.10	4.10	4.10	3.60	4.60	5.10	3.60
	P-Value	0.999	0.575	0.769	0.816	0.445	0.517	0.200	0.750	0.376	0.392	0.179
	Yes	3.74	3.37	2.97	2.87	3.77	2.93	2.77	4.03	4.70	4.90	4.23
Travelling with children	No	4.29	3.46	3.59	4.15	3.99	3.83	0.47	4.22	4.45	4.78	3.96
	P-Value	0.045*	0.855	0.125	0.001**	0.450	0.028*	0.437	0.491	0.245	0.506	0.396

* $p < 0.05$, ** $p < 0.01$

followed by bio-diversity and water quality for the company representatives. Their results indicated that the beauty of the landscape was the most significant factor in the region. A second study by Pan et al. (2014) explored the relationships between motivations and image dimensions. Their results indicated that for image dimensions, “natural resources” (44%), “culture, history, and art” (30%), and “tourist leisure and recreation” (10%) jointly take a lion’s share of 84%. Coupled with infrastructure (3% for general and tourist infrastructure combined), the elements for destination image and tourism development, which constitute 87% of all image dimensions, can be coined “INCA” (infrastructure, nature, culture, and adventure). Castillo et al. (2021a, b, c) mentioned that the Chimborazo volcano is the most frequented tourist attraction in the Chimborazo Fauna Reserve, while the Altar volcano is the most frequented one in the Sangay National Park (Gavilanes et al. 2021a, b) by national and foreign tourists. Their results emphasize the importance of preferences for the natural landscape. The Riobamba Canton is surrounded by magnificent scenery and mountains; each of its parishes has a rich natural and cultural heritage, and the parish of Santiago de Quimiag provides one of the best direct accesses to “El Altar” and its lake complex. The study result also shows that natural tourist attractions such as the Chimborazo volcano and Altar volcano were the best rated, while cultural attractions such as “El Churo” viewpoint and “Virgen de las Nieves” church were rated

with the lowest score by respondents. In this context, for natural tourist attractions, the infrastructure could be strategically located in the surrounding natural areas, improving tourism planning and development. Finally, these evaluations may be useful for tourists, the local population, and government entities in generating added value on the tourist attractions of greater importance while improving those of lesser importance. Through the awareness of various local stakeholders, the development of tourism can be achieved. Tourism and regional development are related to the development of rural areas, which are better suited to attract tourists due to their unique characteristics (Mura and Kljucnikov 2018). Tourism plays an important role in the development of various social and economic activities. Rural tourism will lead to the integration of several ecosystem services. A good tourism program is important for maintaining and improving the rural tourist destination. It can also help boost the local economy by attracting visitors and developing tourism industries.

6 Conclusions

This study aimed to evaluate the most important tourist attractions in the rural parishes of the Riobamba canton and determine the preferences of tourists regarding rural tourism destinations. The study reveals that tourists are concerned about the security and safety of the destination. The price

of the accommodation and the variety of services play a vital role in selecting a tourist destination. The finding shows that entertainment facilities, adventure facilities, and cultural attractions are considered important for all tourists. The result also shows that tourist adventure facilities are statistically significant among age groups because adventure facilities refer to younger people. Our results indicate that natural tourist attractions such as Chimborazo and Altar volcanoes stand out positively in a landscape due to those distinctive elements. In addition, the main attraction among the cultural attractions is Calpi Church, because of its spiritual value. The high quality of tourist attractions is an important variable in increasing demand. The less important tourist attractions are the “Virgen de las Nieves” church and the “Quebrada de Chalán”, located in the parishes of San Luis and Licto. In this context, for natural tourist attractions, the infrastructure could be strategically located in the surrounding natural areas, improving tourism planning and development. Finally, these findings can be useful to the tourism promotion of the rural parishes of the Riobamba canton and enhance those of lower rating on the tourist attractions of the rural parishes of the Riobamba canton. This paper has certain limitations. First, the rural governments do not update the tourist inventory of the rural parishes. Second, visual attention to tourist attractions depends on the visual acuity and color sensitivity of the human vision. Therefore, this may be complemented with eye-tracking tools to be more accurate.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants.

Human and animal rights This article does not contain any studies with human or animal subjects performed by any of the authors.

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