

# Analysis of the ecotourism potential of the Piñas canton, Ecuador

## Análisis sobre la potencialidad ecoturística del cantón Piñas, Ecuador

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### ABSTRACT

*The Piñas canton enjoys a diversity of resources of both cultural and natural character in its territory, it is for this reason that has been determined as the main objective of this research work the analysis of the ecotourism potential of the Piñas canton belonging to the province of El Oro. Allowing the increase of the economy and the development of new ecotourism projects, taking advantage of the resources contained in the territory in a sustainable way. For the effective development of this research, an analysis of the tourism system was carried out with direction to the internal elements that conform it, which allow identifying the current state of the attractions that exist in the canton, for this reason a methodology based on the deductive method was implemented using the hierarchy of attractions and generation of tourist spaces tool designed by the Ministry of Tourism, along with a direct observation approach. Consequently, the results obtained through the research show that the Piñas canton has as a strength a high state of conservation of its natural attractions, however, it lacks the implementation of plans for the dissemination of its ecotourism attractions, which would allow for an increase in visitors and tourists.*

**Keywords:** tourism, diversity, cultural, ecological, potential.

### RESUMEN

El cantón Piñas goza de una diversidad de recursos tanto de carácter cultural y natural en su territorio, es por este motivo que se ha determinado como objetivo principal de este trabajo investigativo el análisis de la potencialidad ecoturística del cantón Piñas perteneciente a la provincia de El Oro. Permitiendo el incremento de la economía y el desarrollo de nuevos proyectos ecoturísticos, aprovechando de manera sostenible los recursos que contiene el territorio. Para el desarrollo efectivo de esta investigación se llevó a cabo un análisis del sistema turístico con dirección a los elementos internos que lo conforman, los cuales permiten identificar el estado actual de los atractivos que existen en el cantón, por esta razón se implementó una metodología en base al método deductivo utilizando la herramienta ficha de jerarquización de atractivos y generación de espacios turísticos diseñada por el Ministerio de Turismo, junto con un enfoque de observación directa. En consecuencia, los resultados obtenidos mediante la investigación evidencian que el cantón Piñas posee como fortaleza un alto estado de conservación de sus atractivos naturales, sin embargo, carece de ejecución de planes de difusión de sus atractivos ecoturísticos, lo cual permitiría llevar a cabo un incremento de visitantes y turistas.

**Palabras clave:** turismo, diversidad, cultural, ecológico, potencialidad.

**INTRODUCTION**

Ecotourism is a tourism activity that includes travel mainly in natural areas, since it is an appropriate and responsible type of tourism to achieve sustainable development. The purpose of ecotourism is to promote the activity through practices of sustainability, conservation, and participation with the local community; thus being considered as a typology of alternative tourism. (Blanco Portillo, et al., 2016).

According to Medina (2018), ecotourism activity in Ecuador has generated great benefits for the ancestral groups and communities that reside in many natural areas of the country. It allows the active participation of this population in the field of ecotourism taking into account that it is a process of assimilation on the natural and cultural wealth that the territory has. In addition, Cruz (2017) states that the local population is a significant factor and emphasizes the responsible use of the resources offered by that particular territory; these aspects must go together with the planning and efficient control of the ecotourism activity.

The emergence of COVID-19 has created a new learning scenario for the tourism sector worldwide. That is why, due to the current pandemic situation, it is necessary to change the way of doing tourism (Castello, V. 2020). The reactivation seeks new forms of tourism, so the territories that have natural and tourist areas aim to strengthen the development of the productive sector. For example, the Piñas canton belongs to the coastal province of El Oro, which has mountains, a humid temperate climate, and a great variety of natural and cultural attractions such as rivers, flora, and fauna. These characteristics provide a unique scenic beauty for tourists who visit this place to carry out activities in natural environments.

However, there is limited ecotourism development in this canton. For this reason, we propose to analyze the tourism system of Piñas based on its internal elements such as superstructure, supply, demand, infrastructure, and the guiding community. In addition, it is proposed to determine the tourism potential through the valuation of natural tourism attractions by using the methodology for the hierarchization of attractions and the generation of tourism spaces in Ecuador.

This research aims to determine the potential and tourism diagnosis to carry out sustainable local development and achieve an effective flow in the economy, society, and tou-

ism. Moreover, it is intended to convey a sense of identity to the people residing in this canton through the identification of natural resources available in the territory. Finally, this study identifies the strengths and weaknesses of the natural attractions of the Piñas canton according to the criteria of valuation of tourist attractions. Taking into account as a strength the state of conservation of natural attractions.

**METHODOLOGY**

The deductive method was used to establish logical conclusions based on an analysis that goes from the general to the particular about the object of the so-called study area. In addition, the research approach was mixed, i.e., qualitative and quantitative, since these two methods were collected, detailed and associated in the same research.

The study area is the Pina’s canton and the following as the object of this study:

1. Internal elements of the tourism system. In this study, the information was collected through direct observation, the methodology of the hierarchy of attractions and generation of tourism spaces in Ecuador, bibliographic research and the application of methodological instruments such as the use of surveys, which allowed obtaining effective information and verifiable data on each of the elements of the tourism services system.

It is important to emphasize that for the analysis of the internal elements of demand, supply and host community, surveys were applied to the established sample, which was obtained through the census conducted in 2010 (INEC, 2010). Therefore, the population of the El Oro province was selected as the study sector by using the formula presented in Table 1.

Sample size:

$$N = \frac{600659}{(0.05)^2 (600659 - 1) + 1}$$

**Table 1: Sample formula**

VARIABLES	
Sample size (N)	600.659
Constant (1)	1
Maximum admissible error (E)	0.05
SAMPLE SIZE (n)	399,73
Total	400

By: Authors.

In addition, an interview was conducted with representatives of the governance structure, which is responsible for tourism development in the canton. As a result, information related to the internal elements of the tourism system, mainly superstructure and infrastructure, was obtained.

2 For the analysis of the ecotourism potential, a hierarchical method was used to rank the attractions and production of Ecuador's tourist areas and to evaluate the tourist attractions, in which nine evaluation criteria were established. This method according to MINTUR (2017), consists of two stages: Stage I; allows the collection, inspection, hierarchization and location of the different tourist attractions. Stage II; description of attractions, geographical detail and typification of tourist spaces. In addition, the nine evaluation criteria are linked to the particularities including the attraction's offer, which determines a hierarchy. They are also based on tourism competency indicators provided by the World Tourism Organization (UNWTO).

The Ministry of Tourism of Ecuador establishes the following criteria related to the tourism competitiveness index and supply.

**Criteria weighting**

For Pineda, Sojos, and Calle, who have conducted a scientific article of the tourism system analysis, "the criteria presented in the tourist attraction hierarchy card define the current state of the attraction and its evaluation based on a hierarchy." (2019, p.164).

The following are the criteria for the evaluation of tourist attractions as proposed by MINTUR (2004), which are shown in Table 2.

**Table 2: Weighting of criteria for Ecuador's tourist attractions**

	Evaluation criteria	Description	Weighting
A	Accessibility and Connectivity connectivity to the attraction	Access roads to the site and	18
B	Tourist plant/ Services by the attraction	Equipment and services provided	18
C	State of conservation and integration / Environment	Integrity of properties, attractions and their surroundings	14
D	Tourism Hygiene and Safety basic services of the attraction	This aspect considers all the	14
E	Policies and Regulations cantonal tourist planning	The attraction is presented in the	10
F	Activities practiced at the attraction attractiveness	Activities that give relevance to	9
G	Diffusion of attractiveness	Acknowledgments and declarations	7
H	Visitor registration and inflow	This aspect considers the demand	5
I	Human Resources	Staff capacity and educational degree	5
	<b>TOTAL</b>		<b>100</b>

By: Authors.

Source: Methodology for the Inventory of Tourist Attractions, MINTUR 2004; Report of the UNWTO Tourism Competitiveness Index 2015.

For the valuation of the tourist attractions, an on-site visit was made by taking into account the fixed weighting values of the criteria. It means that the hierarchical method to rank the attractions and production of tourist areas has a permanent weighting value. Therefore, Sánchez and Calle state that "the criteria under the jurisdiction of the State will have a higher value; while the criteria corresponding to the national tourism authority will obtain a lower weighting, since it has direct incidence within its competences". (2020, p.284-285).

**Theoretical basis**

**Tourism**

Tourism refers to the movement of individuals from their current residence to a different location for recreational activities, rest, and fun at the destination (Ledhesma, 2016). Tourism is also defined as a phenomenon that includes social, economic, environmental, historical, and educational aspects. These aspects are also involved in business, state, or non-governmental sectors and are directly linked to the population of the tourist destination.

According to Castro and Galán (2020), tourism includes those activities that individuals carry out in order to take a break and whose trip does not exceed one year in duration. For these authors, tourism incorporates several factors that make it complex.

**Alternative tourism**

The main purpose of this type of tourism is to travel and participate continuously in recreational activities such as cultural expressions of indigenous, rural, and urban communities and contact with nature by taking into account the cultural, natural, and historical heritage of the area visited. According to Narváez (2014), one of the main characteristics of alternative tourism is working together with people from local communities to practice sustainable development and provide all the necessary guarantees to tourists who carry out tourism activities in a specific place.

Thus, both nature and culture are fundamental elements that provide an alternative tourism experience; natural resources constitute a wide range of activities to be carried out. This type of tourism includes experiences and activities different from those offered by the usual tourist attractions and destinations; as it allows people to enjoy

nature and the unique landscapes that tourist attractions offer. (Vázquez & Lara, 2018).

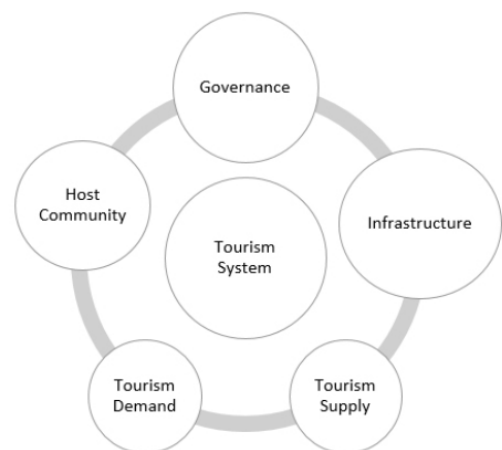
**Ecotourism**

Orgaz (2014) states that all ecotourism activities should be planned and properly managed, by taking into account the ecosystem and local communities, which prevent the negative impacts on the environment, such as the destruction of the resources that make up the tourist attraction. Moreover, it is important to define the local development that is based on social participation by emphasizing its characteristics and working on the concept's clarifications. Ecotourism promotes different tourist activities carried out in a purely natural environment, which captures the interest of individuals due to the culture and nature it possesses.

**Tourism System**

Once the ecotourism modalities have been contextualized, it is necessary to identify how tourism development is structured in a specific territory. An analysis of the tourism system must be carried out in order to understand the impact of a tourism activity in an area and to identify the barriers or limitations that condition tourism potential. For this purpose, the model proposed by Boullón (2006), shown in Figure 1, has been used as a basis.

**Figure 1:** Internal elements of the tourism system



Source: By authors. (Boullón 2006)

Within the tourism system there are external elements, which include economic, social, environmental and cultural aspects, and internal elements such as superstructure, supply, demand, infrastructure, and the host community, which are interrelated and maintain a basis for local development.

**Governance:** Governance includes public and private entities, which have specific objectives such as promoting tourism in a particular territory, optimizing resources, facilitating production, and promoting the sale of tourism services by considering each of the components that are immersed in the tourism system (Díaz, 2013). The importance of the superstructure of a territory is to manage and plan the promotion of tourism, through the articulation of both public and private sectors. Therefore, the Royal Spanish Academy (2014) mentions that governance aims at a lasting economic, social and institutional development, which achieves a balance between society, the State and the economy of the area.

**Infrastructure:** It represents the works and services that achieve the development of economic activities, so it is of common use and is part of the tourism field. It is also the basis for the development of a tourist destination and establishes a connection between service providers and the final consumer (Varisco, 2013). The infrastructure includes transportation services, road network, additional services, recreation areas, as well as tourist facilities such as restoration services, lodging, and tourist information.

**Tourism supply:** All services and goods are marketed on-site, so that tourists can use or consume them at their destination or tourist attraction. According to Boullón (2006), the tourist offer is composed of the services provided by the tourist plant and non-tourist goods, which mainly benefit the visitor. For this reason,

when planning or developing a tourism package, it is essential to establish the real needs of the tourist.

**Tourism demand:** Comprises the number of individuals who travel away from their residence or place of work to enjoy the tourism services and facilities that a place offers. It is represented by tourists, either collectively or individually, who seek tourist facilities to satisfy their needs. Flores (2012), states that there are two types of demand: Internal demand, which is related to the movement of tourists within their national territory or region; and External demand, which refers to tourists who travel to different or external countries.

**Host community:** Also known as the local community, it is integrated by the people who share a variety of cultural elements in a specific geographic area. The local population provides all its indispensable supply to meet the needs demanded by tourists, which implies direct participation in the development of ecotourism activities (Varisco, 2013).

### **Tourism potential**

Through their research, Rodríguez, Vargas, Andrade, and Bedolla (2016), refer to the ecotourism potential within communities that have a series of natural resources, which are transformed into tourism products and satisfy visitor demand. It also occurs with the ecotourism potential of a specific area that can be transformed into a tourism product and which is included in the economic offer of this place.

In order to evaluate and identify the strengths and weaknesses of the tourism potential, it is necessary to carry out a ranking process of each tourist attraction in the area. Thus, Sanchez, Parra and Calle (2020), detail that there are several methodologies that allow the evaluation and determination process, which are presented below in Table 3.

**Table 3: Contrast of methodologies for categorization, evaluation and ranking of tourism attractions.**

According to Sánchez, Parra and Calle (2020) there are many methodologies applied by different organizations and researchers involved in tourism, which contain approaches that represent different phases to achieve proper management. Some of these methodologies are presented in Table 3.

Category analysis	OEA/CICATUR 1978	Leno Cerro 1993	López Olivares 2005	SECTUR México 2005	MINCETUR Perú 2018	MINTUR Ecuador 2017
Classification of resources	Natural areas	Natural areas	Natural or scenic attraction or resource	Natural resources	Natural areas	Natural attractions
	Museums or cultural and historical events	Museums or cultural and historical events	Monumental, technical, ethnological and artistic historical resources	Natural resources	Cultural events	Cultural events
	Folclore	Folclore	Craft and gastronomic resources	Tourist equipment	Folclore	
	Technical, scientific, artistic and contemporary achievements	Technical, scientific, artistic and contemporary achievements	Folklore, festivals and events	Tourist facilities	Technical, scientific, artistic and contemporary achievements	
	Scheduled events	Scheduled events		Market infrastructure	Scheduled events	
	Natural resources	Natural resources	Natural resources	Natural resources	Natural resources	Natural and cultural resources
Aspects to evaluate	Tourist resources	Tourist resources	Tourist resources	Tourist resources	Tourist resources	Tourist resources
				Tourist plant	Particularities	Tourist plant
				Infrastructure	Publications	Infrastructure
				Superstructure	Recognition	Superstructure
					State of conservation	State of conservation
					Tourist flow	Hygiene and safety
					Facilities	Dissemination and promotion
	Territorial representation	Visitor registration				
	Inclusion in tourist tours	Human Resources				
Hierarchization	<b>Hierarchy 1:</b> Attractive without sufficient merit	<b>Hierarchy 1:</b> Complementary resource	<b>Hierarchy 1:</b> Complementary resource	<b>A. Red</b> classification = 0. Means the absence of resources	<b>Hierarchy 1:</b> Attractiveness without sufficient or complementary merit	<b>Resources (0-10):</b> It does not have support infrastructure
	<b>Hierarchy 2:</b> Attractive with a striking feature	<b>Hierarchy 2:</b> Local interest	<b>Hierarchy 2:</b> Local interest	<b>B. Yellow = 1.</b> Implies severe deterioration, neglect, loss or contamination	<b>Hierarchy 2:</b> Resources with striking features	<b>Hierarchy 1 (11-35):</b> Presents minimum conditions to generate products
	<b>Hierarchy 3:</b> Exceptional attractions in a country	<b>Hierarchy 3:</b> Provincial interest	<b>Hierarchy 3:</b> Provincial interest	<b>C. Green = 2.</b> Reflects that the classification of resources is in good condition	<b>Hierarchy 3:</b> Resources with exceptional features	<b>Hierarchy 2 (36-60):</b> Basic conditions for generating interest
	<b>Hierarchy 4:</b> Attractions with very exceptional features of great significance to the international tourism market.	<b>Hierarchy 4:</b> Nacional interest  <b>Hierarchy 5:</b> International interest	<b>Hierarchy 4:</b> Nacional interest  <b>Hierarchy 5:</b> International interest		<b>Hierarchy 4:</b> Exceptional resources with great significance to the international tourism market.	<b>Hierarchy 3 (60-85):</b> Attractive with exceptional features Hierarchy 4 (86-100): Highly significant attraction for the tourism market.

Source: Tourism analysis based on intrinsic strengths and weaknesses of the territory: Case of Zaruma, Ecuador. (Sánchez, Parra and Calle, 2020).

As it is evident in Table 3, there are different theoretical models for the hierarchical ranking of tourist attractions. Each one of them has similarities in terms of evaluation criteria and hierarchical levels, understanding that the hierarchical level will allow knowing the level of development that the attraction has and could have. Furthermore, in some countries the tourism authority establishes management and quality procedures to strengthen tourism development. In Ecuador, a methodological guide has been established for the ranking of attractions and generation of tourist spaces. It is based on the competitiveness indexes issued by the UNWTO, to establish the criteria and weighted values for the ranking process.

**Hierarchization**

The inventory of tourist attractions includes all the areas that have cultural and natural characteristics, which are considered part of the territorial patrimony. It is an instrument responsible for providing specific data, maintaining proper management, organization, execution and territorial diagnosis. It also achieves a better selection of strategies for the tourism development of the territory. (MINTUR, 2017).

Once the information on the attraction has been collected, a numerical value is generated, which is equivalent to the score obtained out of 100. It should be classified in the hierarchical level established by the Tourism Ministry of Ecuador, as detailed in Table 4.

**Table 4: Hierarchy of tourist attractions**

Ranks	Hierarchy	Description
76 – 100	HIERARCHY IV	Attraction that has the optimal conditions for the development of tourism products.
51 – 75	HIERARCHY III	Attraction that has adequate conditions to develop tourism products.
26 – 50	HIERARCHY II	Attractive with some peculiar characteristics, it motivates the visit of national tourists, because it has basic requirements to develop tourism products
11 – 25	HIERARCHY I	Tourist attraction that has the minimum conditions to develop tourism products.
0 - 10	Resource	Cultural or natural element that drives displacement.

By: Authors.

Source: Methodology for the Inventory of Tourist Attractions, (MINTUR 2017).

**RESULTS**

**Analysis of the Tourism System**

The tourism system allows for an analysis of the object of study by evaluating the territory based on five internal elements such as superstructure, supply, demand, infrastructure, and host community. These elements are analyzed from a territorial approach and with a transversal sense that takes into account the axes of sustainability to identify the strengths or barriers that the internal elements of the tourism system have.

Through field work and by using the direct observational method and the methodological guide for ranking tourist attractions and spaces, the strengths or barriers that condition the canton's tourism development were identified. In addition, for the present analysis, those criteria that reach a percentage of 70% to 100% will be considered as strengths, while percentages ranging from 69% to 1% will be identified as limitations to tourism development:

1. Superstructure

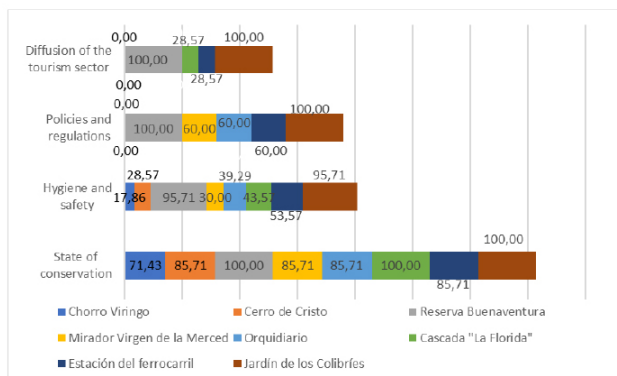
The superstructure is one of the elements of the tourism system that is composed by public and private organizations. This competence represents the companies that develop and provide services within the tourism field, reaching an optimal fulfillment of the needs of those who integrate it (Pineda, Sojos and Calle 2019). In this manner, tourism activities are developed on a regular basis. In the Piñas canton, the governance structure consists mainly of the Decentralized Autonomous Government, which is experiencing a problem with its natural attractions that reflect poor management.

Superstructure		
	Positive aspects	Negative aspects
<b>Economic</b>	The governance proposes projects to take advantage of the spaces and offer alternatives to tourists who travel to the canton.	Many service providers are not linked to governance.
<b>Social</b>	Strategies are being implemented to improve tourism promotion.	Dissemination of tourist attractions is a poor indicator at the time of implementation.
<b>Environmental</b>	Awareness-raising projects for local residents and tourists for the conservation of natural and cultural attractions.	Some strategies are not applied within the tourist areas, which represents a lack of control.

By: Authors  
Source: Fieldwork 2021.

Based on the management of the superstructure of the canton's tourism potential, the tourist attractions were analyzed based on four evaluation criteria taken from the methodological guide for ranking tourist attractions, which are directly related to the competence of the governance of the Piñas canton, as shown in Figure 2.

**Figure 2: Governance management in tourist attractions.**



This analysis allows establishing the conservation status criteria as the main strengths, because the natural attractions represented by the "Buenaventura Reserve" obtained a weighting that is higher than the estimated value. That is why, it is considered a conserved attraction. In addition, it represents a positive impact because it can produce long-term benefits. As Lapo, Quituisaca, and Calle state, "it is essential to sustain all the needs of future generations by protecting tourist areas that promote ecotourism in the territory. It will benefit the local population within the economic sphere due to the arrival of tourists." (2019, p.173).

Regarding the dissemination of the attractions, the results represent a weakness because only two natural areas have a weighted value higher than 70%, the rest have a percentage lower than 30%, which reflects a limited ecotourism promotion by the delegated entities. According to Mendes, Augusto Biz, and Gándara (2013), the dissemination of tourist attractions is considered useful for the commercialization of tourism by local organizations that offer services involved in economic mobilization and local development, through the implementation of tourism activities.

The criterion of policies and regulations corresponds to the natural space placed in the local tourism development plans. The results reflected a percentage between 60% and 100% except for three that have a weighting of 0, which is worrisome, since this criterion refers to actions carried out by public administrations and institutions.

Regarding hygiene and safety, the Buenaventura reserve stands out with 95.71% and the Jardín de los colibríes with 95.71%, both of which represent a potential for the Pina's canton. In contrast to the other attractions, this criterion represents a weakness. For the Tourism Ministry (2017), tourism safety is the reflection of respect and protection towards a tourist attraction. It is associated with the comfort of tourists when traveling since safety guarantees the physical and psychological protection of the visitor, service providers, and the local population. In terms of hygiene, the areas must have people in charge of collecting and depositing waste in order to preserve and conserve the state of the tourist areas.



## 2. Infrastructure

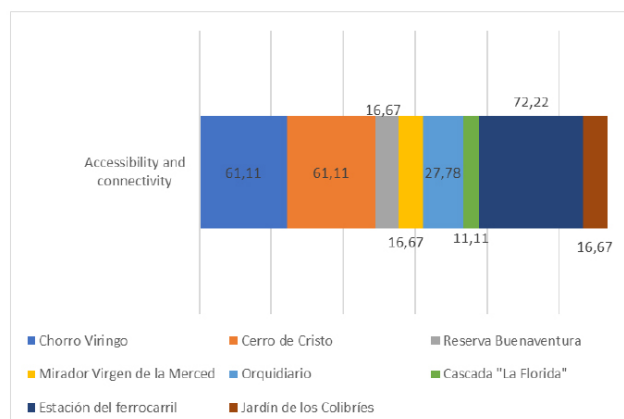
The infrastructure criterion is composed of all the aspects that allow the development of complementary areas that are part of the natural attractions of the Pina's canton. Figure 3 shows the results obtained by evaluating the accessibility and connectivity criteria.

Infrastructure		
	Positive aspects	Negative aspects
<b>Economic</b>	97.40% of people consider that tourism activities can be developed in the Pina's canton.	Poor tourism impact outside the national territory..
<b>Social</b>	The Pina's canton has 76% potable water services, 98% electricity and health services, and 55% sewerage services throughout the area.	There is a lack of signage to find the tourist attractions in the area.
<b>Environmental</b>	Waste collection coverage (78%) in the territory..	Access roads to tourist attractions are not in good condition.

By: Authors

Source: Territorial development plan and fieldwork 2021.

**Figure 3: Infrastructure of tourist attractions**



The results of the accessibility and connectivity criteria reflect a weakness of the canton's tourist attractions since they were rated below average, except for the Estación del Ferrocarril, which scored 72.22% for this criterion.

The accessibility and connectivity section represents a benefit for the sector, due to it generates a good performance within the social, economic, and tourism aspects. According to Carrillo and Boujrouf (2018), tourist accessibility is the reflection of the service quality, since people have free access to enjoy the tourist attractions. On the other hand, signage and conditioning represent a disadvantage for the canton since people can't find the tourist attractions.

## 3. Offer

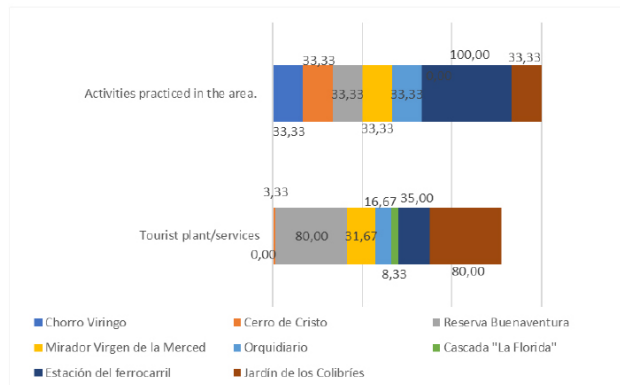
The tourism supply is constituted by the tourism plant, the goods and services, and complementary elements that are part of the tourist destinations in the Piñas canton. From a theoretical point of view, tourism supply refers to the goods of the areas and spaces where tourism activities are carried out, which meet all the expectations of individuals (Ayaviri, Quishpe, and Sanchez, 2017).

Offer		
	Positive aspects	Negative aspects
<b>Economic</b>	The Pina's canton has a tourism plant made up of 4 lodging establishments, 7 A&B establishments, 4 recreational establishments and 2 transportation establishments.	No tourism promotion plans have been developed by the GAD.
<b>Social</b>	38.3% of the respondents stated that they practice tourism activities very frequently.	The service providers do not have trained personnel.
<b>Environmental</b>	Piñas has 18 attractions; 10 natural attractions and 8 cultural attractions.	Waste collection at the attractions is done each week.

By: Authors

Source: Territorial development plan and fieldwork 2021.

Figure 4: Offer in tourist attractions



For the criterion of activities practiced within the attraction, the Estación del Ferrocarril has an above-average value in comparison to the other attractions which obtained lower scores. This criterion is important because the activities practiced in the area benefit the community economically. The attractions of the Pina’s canton promote ecotourism because people take advantage of the spaces that are part of their surroundings.

4. Demand

This parameter integrates both tourists and their consumption needs. It takes into account all tourists who purchase goods and services such as lodging, restaurants, transportation, information, and recreation. According to Rosado, Carbajal and Oliver. (2017) the influx of visitors represents a valued amount of people who visit a tourist area to relax, distract and enjoy. Based on the demand that the Pina’s canton had, the following aspects are identified.

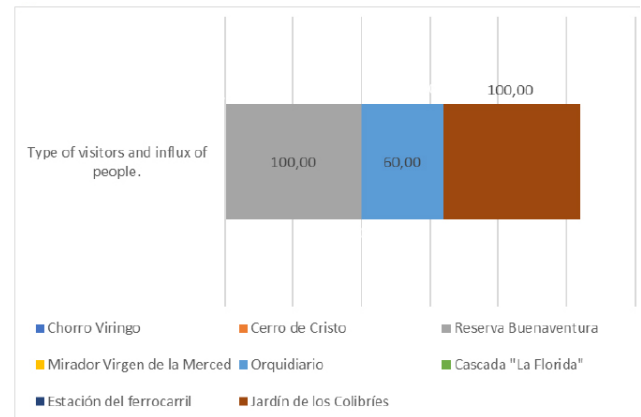
	Demand	
	Positive aspects	Negative aspects
<b>Economic</b>	86.50% of tourists consider that the Pina’s canton offers quality tourism services.	National tourists visiting the Piñas canton do not spend a considerable amount of money on tourism.
<b>Social</b>	77.80% of tourists have visited the Pina’s canton.	22.22% of the respondents do not know and have not visited the canton..

<b>Environmental</b>	97.40% of the tourists surveyed mentioned that ecotourism activities can be carried out in the canton. It means that this canton has a variety of landscapes and natural areas	There is no environmental management plan for Piñas' tourist attractions.
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By: Authors  
Source: Fieldwork 2021.

Based on the demand for the canton's tourist attractions, the following has been determined, Figure 5.

Figure 5: Demand of tourist attractions.



In the evaluation criterion "Type of visitors and influx", the main attractions are: the Reserva Buenaventura with a 100% weighting, the Orquidiario Municipal de Piñas with 60%, which also has a physical record without information analysis, and the Jardín de colibríes with 100%. On the other hand, some attractions do not have a digital or physical tool to obtain statistical data on visitor arrivals. It is necessary to take into account this information in order to determine the demand for the attraction.

4. Host community

For the tourism development of the host community, it is important to include all residents, as they play an active role in the tourism performance of the place. They increa-

se the productivity of tourist destinations composed of leaders of local associations, organizations, and communities of a specific area (Velasco, 2020). Aspects of the Piñas canton community are detailed below.

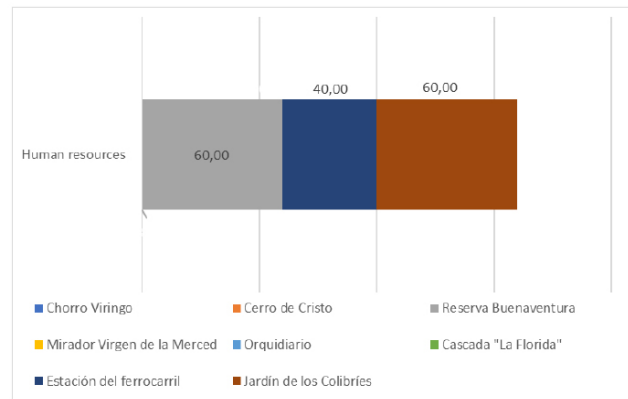
Comunidad receptora		
	Positive aspects	Negative aspects
Economic	62% of the population between 15 and 65 years of age is considered a productive population. It means that they can work and make a living.	Lack of tourism ventures and businesses.
Social	In the Piñas canton, 40% of the population has received primary education, 21.7% attends secondary, while only 10.1% attends higher education, and 0.4% attends graduate school.	In the Piñas canton, the school dropout rate in rural areas is 3.8%, and in urban areas, it is 5.3%.
Environmental	The presence of forests and herbaceous vegetation in the canton is 20% of the territory, the presence of humid and dry forest is 5%.	58.84% of the canton's land is overexploited. This zone is considered a protected area, but it is currently used for pasture and agricultural purposes, so there is significant deterioration.

By: Authors

Source: Territorial development plan for the Piñas canton.

Mendoza, Fernández, and Salas (2016) state that natural resources are the main elements within ecotourism because they develop better tourism management in cooperation with the continuous participation of individuals who have specific needs in terms of tourism services. For this reason, Figure 6 shows the percentage of human resources that the tourist attractions of Piñas canton have.

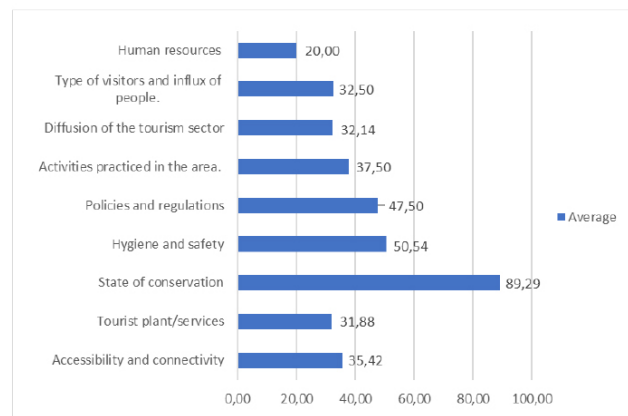
Figure 6: Host community working in tourist attractions.



For the "Human Resources" criterion, the Reserva de Buenaventura y the Jardín de colibríes have 60%, the Estación del ferrocarril has 40% in comparison to other attractions, which have 0% weighting. Due to this situation, it is extremely important to implement strategic planning for human resources in each of the canton's attractions.

Analysis of the ecotourism potential of the Piñas canton. Rodriguez and Martinez define tourism potential as the compendium of opportunities to develop tourism activities in the environment by making appropriate use of resources, which increase tourism potential in the locality (2016, p.178).

Therefore, the ecotourism potential of a specific area is recognized through the valuation of its resources and comprises two principal cycles: the recording of the potential of the area's resources and the evaluation of all inventoried resources (Cartuche, Romero and Romero, 2018).



The tourist potential is the set of characteristics that the natural environment gives to the tourist attraction. The activation of this environment allows reaching the maximum potential of the area since the tourist attractions include its customs, traditions, activities, and tangible and intangible characteristics that attract visitors' attention. (González, Párraga, Calle, 2020).

Thus, the potential of the Piñas canton is favorable for ecotourism activity, since in the criterion of the conservation status of tourist attractions a percentage of 89.29% was obtained, which is considered the only strength. However, there are barriers that condition ecotourism potential, such as hygiene and safety with 50.54%, policies and regulations with 47.57%, attraction activities with 37.50%, accessibility and connectivity with 35.42%, type of visitors and affluence with 32.50%, attraction dissemination with 32.14%, tourist plant/services with 31.88%, and finally human resources with 20%. These criteria need to be improved to strengthen tourism in the canton. The Piñas canton has a series of natural attractions that are evaluated through a tourism diagnosis, which analyzes their strengths and weaknesses. It also allows establishing a table of potentialities, through which the authorities are responsible for developing policies to raise the quality of tourism in the indicators identified as weaknesses.

## CONCLUSIONS

Based on the results obtained from the analysis of the Piñas canton's tourism system, it is evident that the State of Conservation criterion is the only strength under the jurisdiction of the Governance which regulates, coordinates, and promotes tourism activities in the territory represented by the Decentralized Autonomous Government of the canton. On the other hand, its weaknesses include the state of hygiene and safety, the notable absence of tourist signs to facilitate access to the attractions of the canton, and the indicator of policies and regulations, in which the decentralized autonomous government does not have a development project with approaches to tourism implementation. In addition, in the criterion of the activities that are practiced, they are considered self-guided. Similarly, the results show a lack of tourist facilities/services in the area, such as lodging establishments, food and beverage services, guides, and tour operators. In addition, the canton's tourist attractions have limited infrastructure, i.e. the signage is not in optimal condition because it does not have adequate lighting. Therefore, the arrival of tourists

and human resources to provide information to visitors is reduced, except for the Reserva Buenaventura and the Jardín de Colibríes.

On the other hand, it is concluded that the Piñas canton has low tourism potential, not only because of the lack of elements that favor the natural environment of the place but also because of the lack of tourism planning by the governance in areas of cultural and natural attraction, although the accessibility and connectivity to the canton are appropriate and allow the development of tourism activities. Furthermore, this research indicates the existence of ecotourism potential in the Piñas canton, which implies the work of governance and the community to achieve a favorable development of the productive matrix and the skills and knowledge of human resources.

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