



## Strategic Incorporation of Experiential Learning in Sustainability Through the Project “Path to A Sustainable Country”

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**Abstract.** *Path to a Sustainable Country* (in Spanish “Ruta País Sostenible”) is an institutional commitment that seeks to reinforce the importance of natural resources in the university community and promote learning based on experience. We make field trips around the country that connect nature and communities. The areas selected are the National Natural Parks (NNP) and the protected areas of Colombia (12% of the country's territory). This project has the intention to be closer to the territory's realities. At the same time, we have an experiential analysis to develop academic projects that promote the conservation of ecosystem services, and the improvement of the quality of life of the surrounding communities. Since 2022, we have made three field trips to the NNP: Chingaza (paramo), Bahía Málaga (mangrove), Desierto de la Tatacoa (tropical dry forest), El Zoque (andean forest), El Cocuy (Glacier). On those trips, we have had 150 participants among students, professors, staff, and alumni. We tested the most appropriate and effective sustainable learning process. The result indicated that 50% of people memorize the concepts when they directly observe nature and communities. Meanwhile, the second most successful tool was applied research (20%), followed by classes (16%), and finally, laboratory practices (14%).

**Keyword:**

Learning Based on Experience, Ecosystem Services, Protected Areas, Communities.

### 1. Introduction

Colombia has a National System of Protected Areas (SINAP) made up of 1,552 areas that occupy 49.3 million hectares, equivalent to 23.84% of the national territory (see Table 1). The SINAP is a strategic tool for the country's land use planning; it is home to strategic ecosystems for biodiversity, which protect the natural and cultural heritage, and guarantee the supply of

environmental goods and services essential for Colombia's development. However, there are some problems related to agricultural expansion, illicit crops, deforestation, burning, poverty of their inhabitants, armed conflict, among others.

Tabel 1. National System of Protected Areas. Source: RUNAP. December 2022

<b>National System of Protected Areas (SINAP)</b>			
<b>Type</b>	<b>Category</b>	<b>No. AP</b>	<b>Hectares</b>
National protected areas	National integrated management districts	5	21.764.054
	National protective forest reserves	56	548.646
	National Natural Parks	60	22.898.624
	Recreation areas	10	793
	Soil conservation districts	20	145.796
Regional protected areas	Regional integrated management districts	121	2.797.854
	Regional Natural Parks	59	737.885
	Regional protective forest reserves	98	225.972
Local protected areas (private)	Civil society nature reserves	1.123	239.015
TOTAL		1.552	49.358.639

In accordance with SDG 4, regarding education and specifically with its target 4.7, it is crucial for the country and the world to ensure that students acquire theoretical and practical knowledge to promote sustainable development and sustainable lifestyles. Path to a Sustainable Country (Ruta País Sostenible) seeks to respond to a pressing need of the country and is that its inhabitants can get to know their territory, and make people understand the importance of the SINAP for regional and national development and its impact on environmental, social and economic areas.

### **1.1. Main goal**

It is an institutional commitment that seeks to reinforce in the university community the importance of natural resources and promote learning based on experience, through field trips in the National System of Protected Areas (SINAP), which connect nature and communities. The objective is to get people closer to the realities of the territories and to analyze, through experience, how to carry out academic projects that have an impact on the conservation of eco-systemic services and promote the improvement of the quality of life of the surrounding communities.

### **1.2. Specific goals**

The project, which has three (3) specific objectives, seeks to enable members of the Rosarista community to:

- To learn about or rediscover Colombia's National Natural Parks (PNN) or protected areas.
- Understand the importance of protected areas for the country's development, through direct observation of nature and dialogue with local communities settled in the territories.

- Develop socio-environmental competencies, attitudes, and knowledge under an interdisciplinary perspective, which will allow them to move towards more sustainable lifestyles in their professional or personal environments.

## 2. Points of Results and Discussions

The destinations of the project have been selected to cover different terrestrial and aquatic biomes, in order to make visible why Colombia is the second most biodiverse country in the world, with more than 67,000 registered species of flora and fauna, and to make people understand that food production systems, nutrition and the health of Colombians depend on biodiversity, so it is vital to generate mechanisms for its protection and conservation.

Five (5) field trips have been made to the following National Parks: Chingaza (paramo), Bahía Málaga (mangrove swamp, tropical rainforest, beach), Cocuy (snow-capped), Desierto de la Tatacoa Regional Integrated Management District (tropical dry forest) and El Zoque Natural Reserve (high andean forest).

Previously, the participants were surveyed about their perception of the most suitable and effective pedagogical means for the learning process of sustainability. It is evident that 50% perceive field trips as the main option, with 21% the second option is applied research; followed by lectures (16%); and finally, laboratory practices (13%).

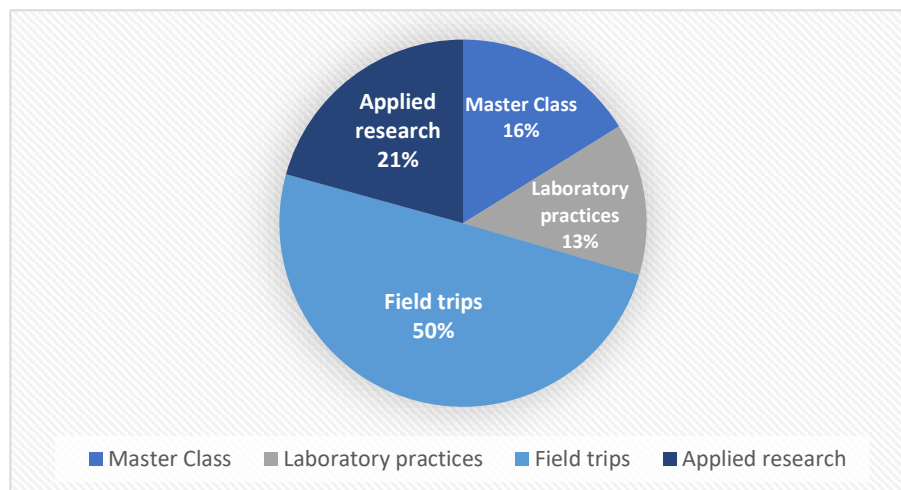
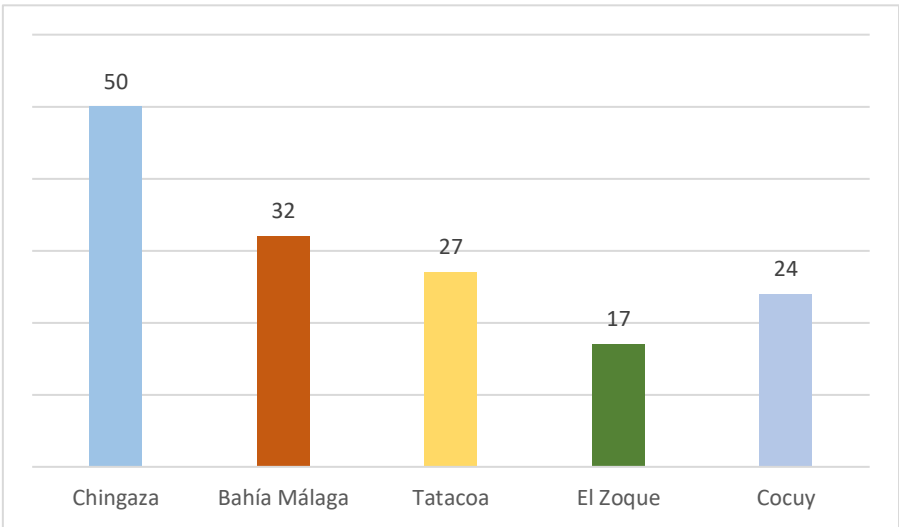
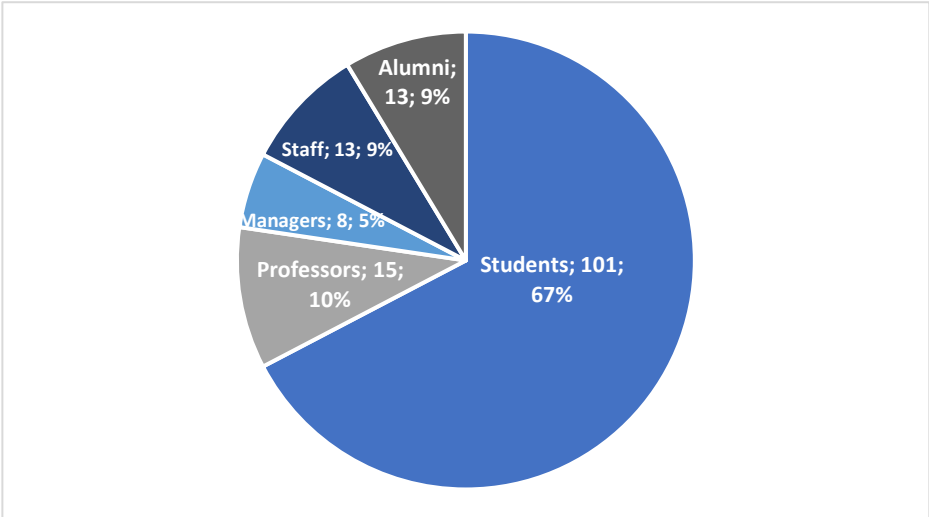


Figure 1. Perception of effectiveness of pedagogical means for sustainability learning

The target audience of the project is the university community of about 15,000 people, which includes undergraduate and graduate students, professors and staff of all academic programs or units. Additionally, the alumni community is invited, which is composed of 72,000 people. This project fosters interdisciplinary and intergenerational communication in order to assimilate different but complementary skills that work towards a common goal.

150 members of the university community from different roles have participated, as shown in Figure 2, with undergraduate and graduate students being the most representative with 67%. It should be noted that 92.7% (139) were visiting the selected destination for the first time in their lives, and that 11.3% (17) were international students or professors.



The average age of the participants has varied in each of the outings as shown in Figure 4, with young people being the most representative group, with an average age of 27 years.

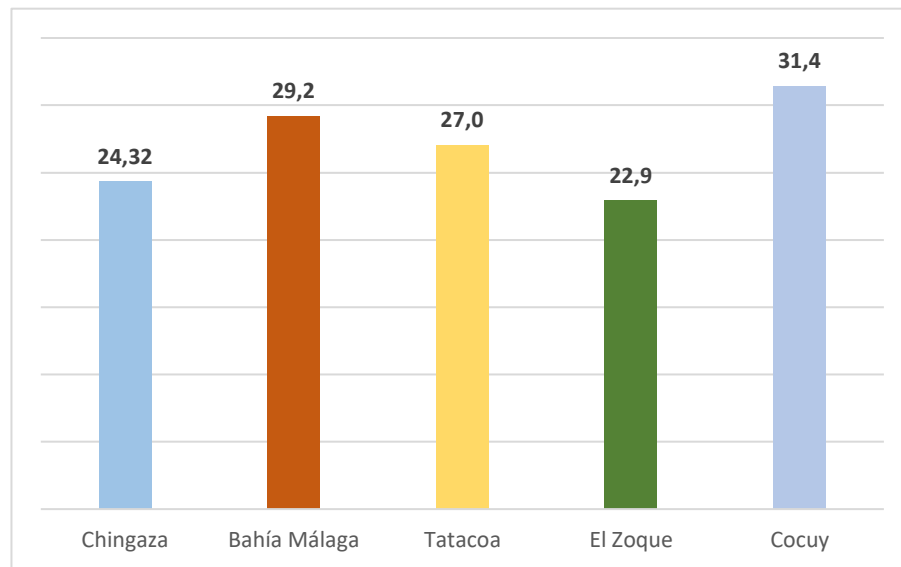


Figure 4. Average age of participants in the RPS field trips, 2022-2023.

The total cost of the field trips has been \$19.312, 45 USD which the university has assumed in two of them (Chingaza and El Zoque) for free access to the university community and has financed itself with a charge per person in the other three (Bahía Málaga, Tatacoa and Cocuy). Sixty-eight percent of these resources (\$13.132 USD) have been used for direct social investment in the communities surrounding the protected areas, as shown in Figure 5., among which are: campesinos, Afro-Colombians, and small and medium-scale entrepreneurs in rural areas.

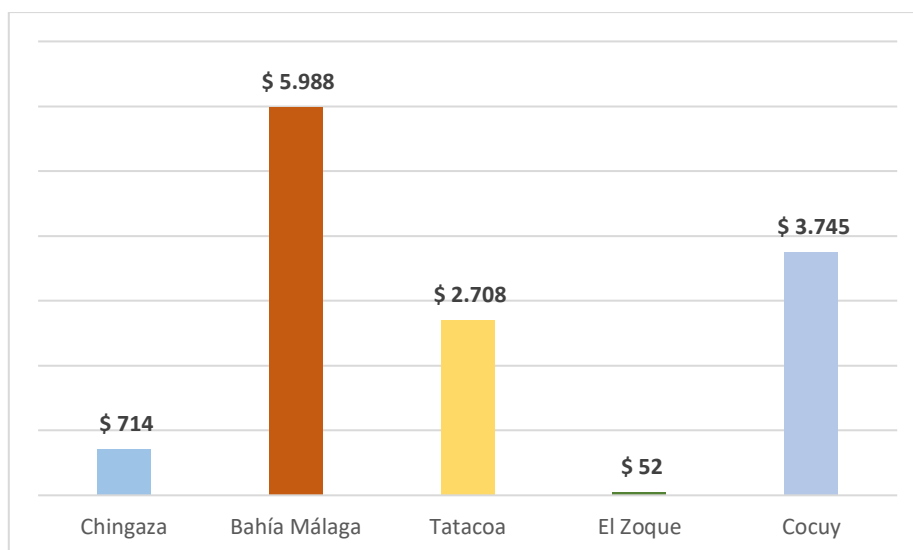


Figure 5. Social investment in local communities in the protected areas visited, 2022-2023.

Additionally, starting in 2023, in the third trip to the Tatacoa Desert, it was established that 5% of the total collected would be destined to the Sueño Ser Sostenible Scholarship,

which has allowed the contribution of close to \$476 USD to benefit students in difficult economic conditions.

### 3. Evidence - Photos

1. PNN Chingaza  
50 attendees



2. PNN Bahía  
Málaga  
32 attendees



3. DRMI Desierto  
de la Tatacoa  
27 attendees



	
<p>4. RNSC El Zoque 17 attendees</p>	
	



5. PNN El Cocuy  
24 attendees



#### 4. Conclusion or Concluding remarks

The field trips that have been carried out so far have led to the following results and conclusions:

- Signing of the [Declaration of Commitment to Sustainability](#) by the Rector and the ECOUR student body, where the pillars of the institutional sustainability strategy are set out, with the Path to a Sustainable Country project as the cornerstone and driving force for experiential learning in this area.
- 150 participants, including students, professors, staff, and alumni, of whom 92.7% (139) were visiting the selected destination for the first time in their lives, which shows a particularity of Colombian society, which is that people do not know the sites that concentrate the greatest biodiversity and cultural wealth of the country.
- All the university's Schools and Faculties (9) have had the participation of students, professors and alumni, and 10 different academic and administrative departments have had the participation of managers and staff. Likewise, there have been interdisciplinary groups of different age groups (young people, adults, and senior citizens), achieving a very high representation of the university community with an average age of 27 years.

- Of the participants, 11.3% (17) were international students or professors from 8 countries, representing 10.2% of the total number of students studying at the university (175), which shows, in contrast to Colombian society, the enormous interest of foreigners in learning about nature destinations in a country as diverse as Colombia.
- The project has covered four terrestrial and one aquatic biomes, which allows correlating the sites and their functioning as an interconnected and interdependent system.
- It has generated close to \$13.000 USD for food, lodging and environmental interpretation services with local communities, mobilizing the local economic dynamics of the protected areas visited.
- It has allowed 66 members of the university community free access to destinations near Bogotá.
- Since the third field trip, it was established that 5% of the total collection would be destined to the "Sueño Ser Sostenible" scholarship fund, for which Ruta País Sostenible has contributed close to \$476 USD to benefit students with economic difficulties.
- 50% of the participants perceive field trips as an ideal way to learn about sustainability issues, due to their capacity for long-term memory correlation of the concepts when observed directly from nature or talked to the communities that inhabit the territories.

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