

**CZECH UNIVERSITY OF LIFE SCIENCES
PRAGUE**



DEPARTMENT OF ECOLOGY

Nature Conservation (Mgr.)

**Ecotourism in the Republic of Congo: A study case of
sustainable alternative for development and
conservation in *Tsoulou Reserve***

Diploma Thesis 2024

Author: Samanta Victoria Torres Molina

Supervisor: Peter Kumble

DIPLOMA THESIS ASSIGNMENT

Bachelor of Science Samanta Victoria Torres Molina, BSc

Nature Conservation

Thesis title

Ecotourism in the Republic of Congo: A study case of sustainable alternative for development and conservation in Tsoulou Reserve

Objectives of thesis

The objective of this thesis research is to determine if ecotourism is a sustainable strategy for the management of the Tsoulou Reserve located in western Congo, Africa.

Specifically, the work aims to define what are the requirements for using ecotourism as a strategy for promoting visitation, preservation, and awareness within the Tsoulou Reserve of western Congo.

The research will:

- Characterize the potential for introducing ecotourism as a model for visitation within the Tsoulou Reserve;
- Determine if similar tourist destinations in the region exist and how might this location be unique;
- Investigate current logistics requirements for how one might access the Tsoulou from both Pointe-Noire and Brazzaville airports;
- Determine who might be the potential clients – both national and international, and who might local tourism operators serve;
- Account for high and low seasonality of the reserve;
- Propose potential marketing strategies; and,
- Estimate revenue potential from ecotourism.

Methodology

The student will travel to Congo to conduct site documentary research at Tsoulou Reserve, observing existing site conditions, conducting interviews and data collection based on discussions with management staff, hotel and other recreation providers, and review the existing management policies of the Reserve.

The proposed extent of the thesis

65 pages

Keywords

Eco Tourism, Congo, economic development

Recommended information sources

- Eagles, Paul F.J., McCool, Stephen F. and Haynes, Christopher D.A. (2002). Sustainable Tourism in Protected Areas: Guidelines for Planning and Management. IUCN Gland, Switzerland and Cambridge, UK. xv + 183pp
- Lisa Naughton-Treves, Margaret Buck Holland, Katrina Brandon, 2005. The Role of Protected Areas in Conserving Biodiversity and Sustaining Local Livelihoods. Annual Review of Environment and Resources (2005) 30:1, 219-252.
- Moore SA, Polley A. 2007. Defining indicators and standards for tourism impacts in protected areas: Cape Range National Park, Australia. Environmental Management (2007) 39:291-300. DOI: 10.1007/s00267-005-0191-5
- Whelan, T., (ed) 1991. Nature Tourism, Managing for the Environment. Island Press, Washington DC.

Expected date of thesis defence

2023/24 SS – FES

The Diploma Thesis Supervisor

doc. Peter Kumble, Ph.D.

Supervising department

Department of Landscape and Urban Planning

Electronic approval: 19. 12. 2023

prof. Ing. Petr Sklenička, CSc.

Head of department

Electronic approval: 2. 1. 2024

prof. RNDr. Michael Komárek, Ph.D.

Dean

Prague on 10. 01. 2024

I hereby declare that I wrote the thesis entitled " Ecotourism in the Republic of Congo: A study case of sustainable alternative for development and conservation in Tsoulou Reserve " independently, under the direction of doc. Peter Kumble, Ph.D. I have listed all literature and publications used to acquire the information included in this thesis.

In Prague, 28.03.2024

Samanta Victoria Torres Molina

Acknowledgements

I want to express my gratitude to my supervisor, doc. Peter Kumble, PhD for allowing me to be part of this project and for all his support and guidance during this research. I would also like to give special thanks to the Faculty of Environmental Sciences of the university and to the "Save Elephants" Foundation, since they were the main sources of funding for this research. Also, to the staff of the foundation and the reserve, as well as the people of the community who received me in a very hospitable manner and always helped me. A thank you to all my friends and family who, both in the Czech Republic and in my country, Ecuador, have supported me and motivated me to continue throughout my master's studies.

But the greatest gratitude goes to my mother, everything I have achieved in my life has been thanks to her, her support, example and love. She has taught me never to give up.

Thank you.

Abstract

Ecotourism is known as a more sustainable alternative to tourism in protected areas as it seeks a balance between the three pillars: economic, environmental and social. This research was carried out in the Tsoulou Reserve in the Republic of Congo and analyzes the current situation of this reserve to determine whether ecotourism is an alternative for sustainable development in this reserve and for the local communities. In order to determine this, field research was carried out to characterize the current situation of the reserve and its potential for ecotourism, as well as interviews and documentary research to obtain the necessary information to determine whether the reserve meets the basic requirements to develop tourism activities or what would be needed to do so. Strategies and future courses of action for the development of an ecotourism plan were also proposed.

Key words: ecotourism, conservation, sustainable development, protected area, sustainability, Africa.

Abstrakt

Ekoturistika je známá jako udržitelnější alternativa cestovního ruchu v chráněných oblastech, protože se snaží o rovnováhu mezi třemi pilíři: ekonomickým, environmentálním a sociálním. Tento výzkum byl proveden v rezervaci Tsoulou v Konžské republice a analyzuje současnou situaci v této rezervaci s cílem zjistit, zda je ekoturismus alternativou udržitelného rozvoje v této rezervaci. Za tímto účelem byl proveden terénní výzkum, který charakterizoval současnou situaci rezervace a její potenciál pro ekoturistiku, a dále rozhovory a dokumentární výzkum, jejichž cílem bylo získat potřebné informace k určení, zda rezervace splňuje základní požadavky pro rozvoj turistických aktivit, případně co by k tomu bylo zapotřebí. Byly rovněž navrženy strategie a budoucí směry činnosti pro rozvoj plánu ekoturismu.

Klíčová slova: ekoturismus, ochrana přírody, udržitelný rozvoj, chráněná oblast, udržitelnost, Afrika.

TABLE OF CONTENTS

1. Introduction	10
2. Literature Review	11
2.1 Ecotourism.....	11
2.1.1 Definition and historical development.....	11
2.1.2 Impacts of tourism and the need for sustainable tourism.....	13
2.1.3 Ecotourism as a tool for development.....	15
2.1.4 Socio economic benefits and impacts of tourism activities particularly on protected areas.....	16
2.1.5 Market Trends and Consumer Preferences in Ecotourism.....	19
2.1.6 Ecotourism in Protected Areas.....	23
2.2 Protected Areas.....	24
2.2.1 Importance of protected areas.....	24
2.2.2 Management of protected areas.....	26
2.2.3 Stake holders for the management of protected areas.....	28
2.3 Ecotourism in Republic of Congo.....	31
2.3.1 Description of Republic of Congo.....	31
3. Methodology	35
3.1 Case Study.....	35
3.1.1 Description of the study area.....	35
3.2 Data collection.....	35
3.2.1 Field study.....	37
3.2.2 Interviews.....	40
3.2.3 Documentary research.....	43
4. Results	44
4.1 Field study.....	44
4.2 Interviews	53
4.3 Documentary research	59
5. Discussion	62
6. Conclusions	67
7. Recommendations	69
8. References	71
9. Appendices	77

LIST OF TABLES

Table 1: Impacts of tourism based on Stynes (1997) and Cooper et al. (1993)

Table 2: Species biodiversity in Congo based on Doumenge et al. (2015), IUCN (2014) and DGDD (2014).

Table 3: Intrinsic criteria matrix based on Enriquez-Martinez et al. (2010)

Table 4: Extrinsic criteria matrix based on Enriquez-Martinez et al. (2010)

Table 5: Identification of experts interviewed

Table 6: Evaluation results of intrinsic criteria of tourist resources.

Table 7: Evaluation results of extrinsic criteria of tourist resources.

Table 8: Intrinsic criteria with numerical values

Table 9: Evaluation results of intrinsic criteria of tourist resources with numerical values.

Table 10: Extrinsic criteria with numerical value

Table 11: Evaluation results of extrinsic criteria of tourist resources with numerical values.

Table 12: Weighting of intrinsic criteria

Table 13: Weighting of extrinsic criteria

Table 14: Final matrix of multi-criteria evaluation

LIST OF FIGURES

Figure 1: Ecotourism characteristics are based on Paterson (2002) and Chesworth (1995).

Figure 2: Percentage of internationals arrivals of each region in comparison with the year 2019. Source: UNWTO *Preliminary figures. Data as collected by UN Tourism, January 2024. Published: 19/01/2024

Figure 3: 5 P's of marketing

Figure 4: Classification of ecosystem services according to Millennium Ecosystem Assessment (2005)

Figure 5: Stages for the elaboration of a management plan based on SINAC (2016)

Figure 6: Power/Dynamism Matrix based on Gardner et al. (1986)

Figure 7: Power/Interest Matrix based on Mendelow (1991)

Figure 8: Republic of the Congo ethnic composition 2000 taken from Britannica (2024)

Figure 9: Map of protected areas in Congo from Doumenge et al. (2015)

Figure 10: Tsoulou Reserve in Congo and Tsoulou Reserve (DOPA, 2024)

Figure 11: Information Card 1 own elaboration based on Huizar and Villanueva (2021)

Figure 12: Information Card 2 own elaboration based on Huizar and Villanueva (2021)

Figure 13: Information Card 3 own elaboration based on Huizar and Villanueva (2021)

Figure 14: Information Card 4 own elaboration based on Huizar and Villanueva (2021)

Figure 15: Information Card 5 own elaboration based on Huizar and Villanueva (2021)

Figure 16: Information Card 6 own elaboration based on Huizar and Villanueva (2021)

Figure 17: Inbound tourism Congo 2022. From UNWTO Tourism Data Dashboard (2024).

Figure 18: Simplified SWOT for Tsoulou reserve based on information obtained during the field research.

Figure 19: Power/Interest Matrix based on Mendelow (1991) with data collected in the field.

1. Introduction

The term ecotourism was born almost 40 years ago as an alternative to traditional tourism due to the need to ensure the protection of protected areas (Eagles, 2002 and Honney, 2008). This term is based on the three fundamental pillars of sustainable tourism: environmentally friendly, economically viable and socially acceptable (Nicholas et al., 2009). Over time, this type of tourism has been evolving and adapting. More and more governmental and non-governmental organizations are supporting this type of initiative and at the same time it is a market that has been growing.

Ecotourism not only comes from the need to reduce environmental impact, but also from the need for a fairer tourism with local communities and at the same time satisfy this new market that is increasingly looking for more responsible and sustainable travel alternatives. However, this has also caused the term ecotourism to be used as a marketing strategy, also known as greenwashing (Rozzi et al., 2010; Wheeller, 1992).

The present research is a study of the Tsoulou reserve and its potential for ecotourism planning as a sustainable development alternative for the local communities that live in the protected area. This reserve is located in the Republic of Congo at approximately 416 km from its capital Brazaville and is one of the 16 protected areas of the country (Doumenge et al., 2015). This reserve also belongs to the Congo-Basin ecological area which is of great importance globally as it is the second largest tropical forest in the world (WWF, 2024).

The main objective is to determine if ecotourism is really a viable alternative to the sustainable development of the local communities, through field research, interviews and documentary research to characterize the reserve, inventory the tourist attractions and evaluate them, determine its current situation. And in turn, identify its strengths, weaknesses, opportunities and threats to perform the SWOT analysis and identify the main stakeholders, to propose possible strategies.

2. Literature review

2.1 Ecotourism

2.1.1 Definition and historical development.

Tourism, as an industry that generates employment opportunities and economic income for destination countries, rests on two fundamental pillars: the natural environment and the culture of each country. Tourists are inherently curious about the unique characteristics and social richness of the places they visit. In its beginnings, tourism was portrayed as an activity with a commitment to normal defilement. In its early days, tourism was depicted as an activity with minimal environmental impact, often referred to as a 'smokeless industry.' However, over time, the evolution of tourism has revealed how irresponsible and poorly managed practices within this economic sector have contributed to the deterioration of the global environment. This not only jeopardizes the long-term sustainability of tourism but also poses threats to the social and natural environments of the communities hosting these activities (Molina, 2013; Morillo, 2002).

The term "ecotourism" was first mentioned in the late 80's. Ceballos-Lascurain (1987) defined ecotourism as traveling to relatively undisturbed natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations found in these areas. In 1990, Megan Epler Wood defined ecotourism as traveling responsibly to natural areas that conserve the environment and improve the well-being of the local population. She also founded The International Ecotourism Society (TIES) where the board established TIES mission and the definition of ecotourism in 1991, in the same year started to work with Charles Darwin Foundation in order to find better options to manage the tourism in Galapagos Islands, Ecuador (TIES, n.d). Ceballos- Lascurain and Epler-Wood were the initiators of this characterization of ecotourism as an alternative form of traditional tourism.

Over time, new concepts of ecotourism have been proposed, the definition proposed by the IUCN mentioned that ecotourism is " *the environmentally responsible tourism, consisting of traveling to or visiting natural areas for the purpose of consisting of traveling to or visiting natural areas in order to enjoy and appreciate enjoy and appreciate nature (as well as any cultural manifestations of the present*

and the past), which promotes conservation, has a low visitation impact, and fosters an active and socioeconomically beneficial involvement of local populations." Sometimes the term ecotourism is misused or confused with nature-based tourism.

Nature-based tourism, closely linked to ecotourism, involves visiting natural resources but may not necessarily prioritize conservation or sustainability. In many natural areas, existing nature tourism lacks proper planning and conservation measures. While nature tourism programs often integrate elements of ecotourism, their environmental impact may vary. Sustainable nature-based tourism is more related to ecotourism but does not fulfill all its criteria and can be suitable in highly visited and disturbed areas. Despite some "green" tourism developments not meeting low-impact standards, they may still contribute financially to conservation and offer conservation education. The distinction between sustainable nature tourism and ecotourism is nuanced yet highly significant. A project can only be accurately labeled as ecotourism if it fulfills all the specified criteria mentioned above. Those projects falling short of any of these criteria ultimately do not genuinely contribute to long-term benefits for both conservation and the involved communities. Ecotourism will always be nature-based tourism, but nature-based tourism is not necessarily ecotourism, this is due to ecotourism being a responsible travel that is focused on nature conservation. (IES, 2019; Gyan, 2007; Metin, 2019; Drumm and Morre, 2002).

Discussions about economic patterns, natural impacts, and concerns regarding resource scarcity are further elaborated upon. Humanity came to the realization not long ago that resources are finite, emphasizing the crucial need to care for the planet. In 2002, the United Nations declared it the International Year of Ecotourism, and the professional Journal of Ecotourism was established in the same year. In November 2015, the Sustainable Tourism Summit reiterated the significance of the 1995 Sustainable Tourism Constitution. It acknowledged the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015, highlighting a tremendous opportunity to guide tourism toward an environmentally friendly, viable, and community-respectful future. As mentioned by Nicholas -et al., (2009) those are the pillars of sustainable tourism. The Global Charter for Sustainable Tourism +20 outlined various approaches to achieving these goals.

These agreements emphasize the importance of aligning tourism with the preservation of nature and biodiversity. Recognizing a healthy environment as a fundamental tourism asset, they aim to promote awareness of nature's intrinsic

value for all. Additionally, the agreements underscore the need for sustainable consumption and production patterns throughout the entire spectrum of services and activities. Furthermore, the tourism sector is urged to embrace innovative technologies and management practices to enhance the efficiency of resource utilization, especially concerning water and energy. The industry is encouraged to develop pioneering solutions that contribute to a circular economy, minimizing waste generation, enhancing efficiency, reducing consumption, and mitigating pollution in the overall resource management process (Torres and Munoz, 2022; Gstc et al.,-2015).

Ecotourism has faced numerous challenges over time. Initially, conservationists opposed the concept of ecotourism, advocating for strict protectionism in protected areas as an ideal solution. Conservationists established and managed protected areas with minimal involvement of the people living near or within those areas. However, acknowledging the realities where development cannot be disregarded, a paradigm shift occurred. Conservation activities started integrating with economic development, recognizing that the conventional approach of strict protectionism was no longer sufficient. This realization prompted the exploration of new methods to achieve conservation objectives (Brandon et al., 1998; Drumm and Moore, 2002).

2.1.2 Impacts of tourism and the need for sustainable tourism

Tourism is an activity that takes place all over the world and in different ways. This is why determining its impact is complex, as it is necessary to consider the context of each situation. However, it is possible to describe in general the impacts of tourism in two main groups environmental and social impacts. These impacts can be positive or negative, it all depends on how tourism is managed in each context (Table 1). These impacts are a general overview of tourism. However, when talk about sustainable tourism, is needed to focus on reducing the negative impacts and increasing the positive impacts. This means that sustainable tourism will respect the carrying capacity, will not be massive tourism, and will contribute to the conservation of the area, this can be natural or cultural area, also try to benefit the local community and present tourism as an alternative for their development as a community.

Impacts	Positive	Negative
Environmental		<ul style="list-style-type: none"> • Pollution due to the traveling. • Impacts on natural areas by not respecting carrying capacity. • Massive tourism in natural areas.
Social	<ul style="list-style-type: none"> • Increased domestic income and foreign currency earnings. • Economic multiplier effect • Increased employment • Improved infrastructure 	<ul style="list-style-type: none"> • Incomes sometimes does not stay in the local communities due to the companies are owned by foreigner people/companies. • Gentrification, increased of living costs. • Culture sold and commercialized. • Seasonal unemployment.

Table 1: Impacts of tourism based on Stynes (1997) and Cooper et al. (1993)

Within the field of sustainable tourism, there are various types, with ecotourism being the most prominent in recent years. However, due to its growing popularity, the term is sometimes used for purely commercial purposes, giving rise to what is known as "greenwashing" (Rozzi- et al.,-2010; -Wheeller,-1992). Ecotourism is a sub-sector of the0 tourism industry. It reflects the spirit of responsible engagement. Along with environment and local culture, ecotourism includes nature and excursions, diving, wildlife watching, and cultural tourism, usually with some attention to the sustainability of ecosystems, and biodiversity. Ecotourism has emerged as one of the fastest-growing segments in global tourism, often touted as a significant conservation tool, showcasing how individuals can positively impact the environment and bolster the economic well-being of host countries. However, depending on how ecotourism is carried out, it remains questionable whether it provides the supposed benefits (Buckley 2009).

Although ecotourism has conservation potential, it is important for scientists to carefully assess the impacts of tourism and development within habitats. Many important research questions need to be addressed soon. First, is necessary to determine whether current forms of ecotourism are effective in supporting sustainable development in host countries. There is a growing need to focus more on ecotourists themselves (Mckinney, 2016). This because, usually tourism comes with an environmental cost and can generate pressure on landscapes in both senses spatial and temporal (Whelan, 1991).

2.1.3 Ecotourism as a tool for development

The term "ecotourism" has been used on several occasions solely as a marketing tool. What is known as "greenwashing", which is using the environmental trend to sell more, applies not only to the tourism industry but in general to different products and services because the trend of eco-friendly and environmental concern has grown in recent years. With this in mind, several authors have proposed different characteristics necessary to be considered ecotourism which have been compiled into two main groups, environmental and social (Figure 1). Nevertheless, in the realm of sustainable tourism, it becomes imperative to account for the economic factor. Thus, sustainable tourism must be ecologically friendly, economically viable, socially equitable, and culturally appropriate (Nicholas et al., 2009; Medina, 2005 & Wall, 1997).

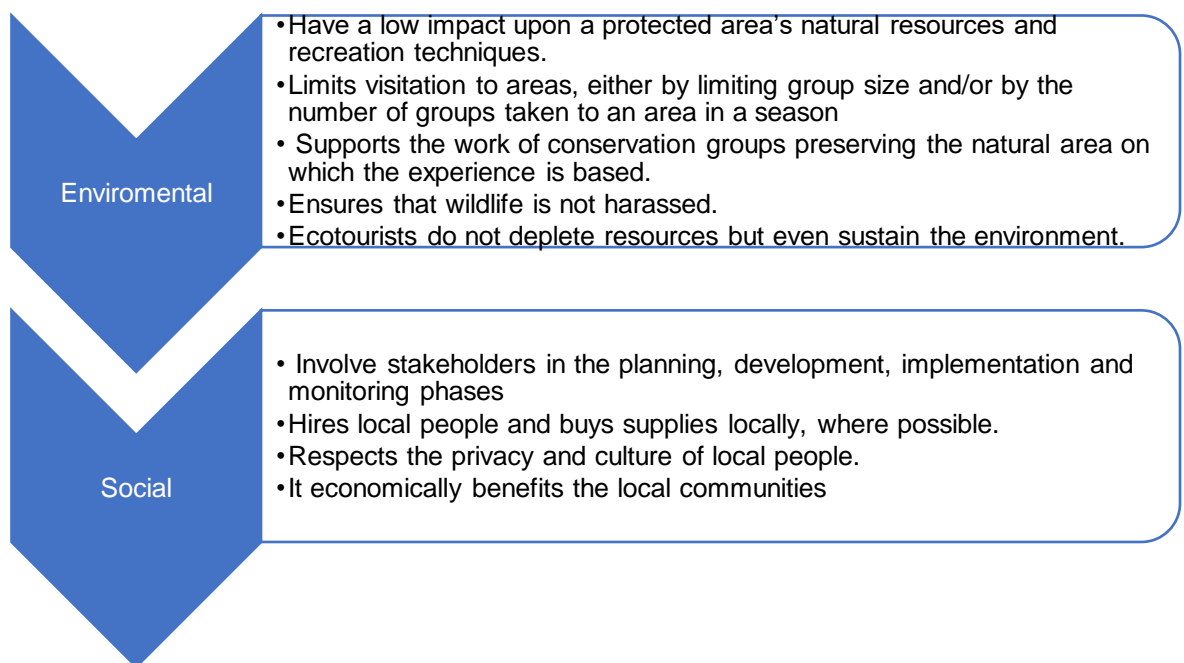


Figure 1: Ecotourism characteristics are based on Paterson (2002) and Chesworth (1995).

In order to support sustainable development, ecotourism must be planned and centred around four primary factors: natural, social, economic, and cultural, considerations. Firstly, ecotourism should prioritize environmental preservation

rather than encouraging mass tourism. Moreover, it should concentrate on social factors, fostering the involvement and ownership of local communities to empower them, as they play a pivotal role in supporting tourism development and should be the primary beneficiaries of such activities, but with respect to the culture of these communities. And the economic factor.

Ecotourism needs to contribute to local economic development, generate income, and create jobs (Brown et al, 1997; Wall, 1997). The money needs to stay in the community because its natural resources are used to develop this activity. It is important to plan for tourism that can be sustained in the long term without being a threat to the environment. Continue to generate income, without compromising the future of the natural resources (Jiang, 2008; Kiper, 2013). This is the clear definition of sustainable development, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43).

2.1.4 Socio economic benefits and impacts of sustainable tourism activities particularly on protected areas.

In local contexts, tourism has the potential to foster community development, particularly in rural areas. The diverse forms of tourism, including ecological, rural, community, and adventure tourism, facilitate the infusion of vitality into the market. This trend significantly benefits rural areas, especially those hosting numerous protected areas (Molina-Murillo, Hernández & Shreeve, 2016 and White, 1993). Sustainable tourism includes tourism practices that honor the natural, cultural, and social surroundings, as well as the values of a community. It fosters a positive interchange of experiences between residents and visitors, promoting a fair relationship between tourists and the community. Equitable sharing of benefits derived from the activity is prioritized, and visitors are encouraged to adopt a genuinely participatory attitude in their travel experiences (Blanco- and -Curiel,-2016). In this context, one would anticipate that responsibly developing tourism activities could enhance local land tenure and encourage the adoption of sustainable production practices by the local community (Vásquez & Gutiérrez, 2016).

There are some countries that are highlighted in sustainable tourism like, Australia, -New Zealand, Zanzibar- and- Costa -Rica. Being Costa Rica recognized as the

world's first ecotourism destination which in 1994 reported a revenue over US \$600 million from visitors of local national parks, wildlife refuges and biological reserves. Galapagos Islands in Ecuador are known for offering the first ecotours, so it is commonly said that it is the place where the concept of ecotourism was born as an alternative to conserve the archipelago (Eagles,-2002 and Honey,-2008).

The sustainable tourism can bring positive benefits for the development of local or rural economies by encouraging the establishment and expansion of new businesses is achieved through various means, such as prioritizing the export market across multiple sectors. Companies initially catering to tourists may evolve into successful exporters, thereby contributing to economic diversification. This approach also drives the development of fresh infrastructure and transportation services. Additionally, by fostering tourism, there is a natural incentive for the local and rural population to acquire new language skills and enhance customer service expertise. Moreover, initiatives that provide incentives and funding play a crucial role in promoting the sustainable management of natural, cultural, and historical resources, ensuring their responsible utilization (ILO, 2013).

The economic and environmental impacts from tourism development can be measured using established criteria. Economic impacts are quantifiable through financial inflows or outflows in a national, regional, or local tourism economy, tax revenues, and the generation of direct and indirect employment. On the other hand, environmental impacts can be gauged by changes in wildlife species abundance, erosion rates, and alterations to protected areas. However, the assessment of social impacts remains a contentious matter due to the multitude of intangible costs and benefits introduced by tourism development (Buultjens, 2005).

The impacts and benefits of tourism in protected areas can vary according to the context, especially from a social perspective. For example, there are communities that live inside protected areas and others that live around them, in the so-called buffer zones. In both cases they are key actors in the development of the activity, as they are usually the ones who know the area best and can be a great asset in case they benefit from this activity, but they can also be a threat as they are the main ones affected.

Achieving a balance can be challenging, especially as increased visitation leads to more infrastructure development in protected areas. Concerns arise regarding the environmental and social impacts caused by visitors and the necessary facilities. Managers often grapple with the dilemma of weighing positive visitor experiences

against negative impacts on habitats and wildlife-human conflicts. These challenges are increasingly common as countries strive to harmonize the preservation of natural heritage in protected areas with societal demands to visit, appreciate, and utilize them for income and external exchange (Leung et al. 2019).

Is possible to classify the benefits in three categories environmental, economic and social as is presented below summarized from: Eagles, et al., (2002); CBD, (2004); Maller, et al., (2009), IUCN, (2010); Spenceley, et al., (2015).

Environmental benefits

To provide public education on conservation, cultivate an understanding, and appreciation of natural resources through educational experiences, generate awareness of the value of resources, protect those that have little value to residents, and support research for the development of environmental practices. Additionally, promote management systems that impact the operations of tourism and transportation companies, as well as influence visitor behaviour. Furthermore, support environmental and species monitoring through volunteer participation in citizen science projects.

Economic benefits

Tourism initiatives aim to generate multifaceted benefits, fostering economic prosperity for nations, regions, and local communities by strengthening commitments to natural area conservation and wildlife preservation. The overarching goals include boosting local employment opportunities and incomes, stimulating the growth of diverse tourism businesses, enhancing local infrastructure sustainably, promoting regional manufacturing and trade, generating tax revenue, facilitating skill development for employees, and providing crucial financial support to protected areas through fees and charges. These efforts not only contribute to economic vitality but also align with sustainable practices, ensuring a harmonious balance between economic development and environmental conservation.

Social benefits

Tourism initiatives aim to enhance the quality of life for residents, fostering pride in their cultural heritage and protected areas. The focus is on supporting environmental education for both locals and visitors, promoting a deeper understanding of cultural values and resources. Creating attractive environments for residents and visitors alike, conducive to new, area-compatible activities, is a key objective. The broader goals include fostering intercultural understanding, preserving local culture, crafts,

and arts, encouraging the learning of diverse languages and cultures, promoting aesthetic, spiritual, and health-related values, and improving physical health through recreational activities. Additionally, tourism contributes to mental well-being by alleviating stress and fatigue, elevates the global profile of conservation efforts, and serves as a means to interpret conservation values and issues for visitors.

The outlined initiatives demonstrate a holistic approach to sustainability, encompassing environmental, economic, and social dimensions. By promoting public education, conservation awareness, and responsible tourism practices, these efforts aim to strike a balance between preserving natural resources and fostering economic prosperity. The integration of tourism initiatives not only contributes to the vitality of local economies but also enhances the quality of life for residents through cultural preservation, environmental education, and improved well-being. This comprehensive strategy aligns economic development with environmental conservation, fostering a harmonious coexistence that benefits both present and future generations.

2.1.5 Market Trends and Consumer Preferences in Ecotourism

Tourism has changed over the years due to the development of the world in general. Dynamics change, the development of new technologies and unforeseen external factors such as COVID 19 that caused great losses worldwide. According to the UNWTO in 2020 there will be -74% of international tourist arrivals in the world. After COVID-19 the profile of the tourist has changed in the world, he/she now seeks to connect more with the place visited, avoids crowds, looks for adventure tourism, genuine experiences, increased use of technologies, and has more interest in environmental care (Lemus & Diaz, 2022).

In 2022, Europe received 585 million arrivals, 80% of pre-pandemic levels. The Middle East got 83% of pre-pandemic figures. Africa and the Americas recovered about 65% of pre-pandemic visitors, while the Asia-Pacific region recovered only 23% according to the UNWTO 2023. However, in 2023 the number had improved, and international tourism reached 88% of pre-pandemic levels, with an estimated 1.3 billion international arrivals. As is showed the percentage of internationals arrivals of each region in comparison with the year 2019 in Figure 2.

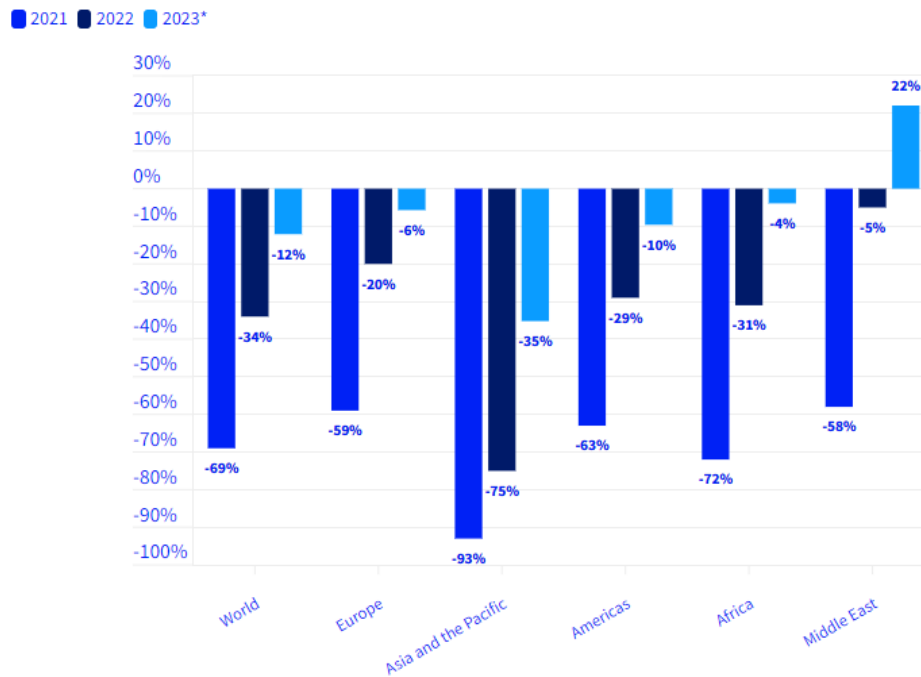


Figure 2: Percentage of internationals arrivals of each region in comparison with the year 2019. Source: UNWTO *Preliminary figures. Data as collected by UN Tourism, January 2024. Published: 19/01/2024

Ecotourism's development centres on a regional focus to mitigate global tourism's harm to local environments. Understanding eco-travelers' needs is key to successful ecotourism. These travelers prioritize cultural experiences, knowledgeable guides, and adventurous activities like hiking and rafting. Accommodation choices vary, with preferences for rural houses, wilderness camps, or simpler lodging options. Travel agencies use the 5P marketing strategy (Figure 3) considering psychological factors guiding tourists' decisions (Juraev et al., 2020).

Acutt (2020) and Abraham & Lodish (1990) describe the 5P's of the mix of marketing as:

Product

A company's product or service, offered for sale, requires an understanding of customer needs and expectations. For services, factors like after-sales service, staff quality, and the level of attention provided compared to market norms are crucial for assessment. Similarly, for goods, considerations include overall product quality, design, packaging appeal, and product features. Overall, a comprehensive

evaluation of these attributes is essential for determining the viability and success of the offering in a given market and among the targeted customer base.

Place

Understanding where customers typically acquire a particular product or seek the support of a service is crucial for a business. This involves knowing the target customer, carefully considering business location, product placement in stores, and distribution methods. The place may refer like a physical location for example a supermarket if talk about food for example. When talk about tourism it means more about where the customer can find our offer and most of the times is internet, people look online for tours.

Price

The price is the value that you give to a product in the market, this can be considered cheap or expensive, but is subjective due to it depends on the costs of production, the quality and the target. Common considerations for value include usefulness, visual appeal, the level of need, innovation, scarcity, and usability, all balanced against the cost of acquisition. When evaluating the value of a service, additional factors come into play, such as the quality of customer service and interactions with service staff. Beyond value, the final price of a product or service is influenced by various elements, including discounts, seller-financing, handling charges, and taxes, necessitating a thorough assessment of these factors.

Promotion

Involve a set of activities aimed at informing, persuading, and reminding individuals about a product's features, advantages, and benefits, playing a crucial role in enhancing brand recognition and sales. These activities encompass elements like the sales team, public relations, advertising, and promotions. Advertising, a paid communication method, includes mediums like television, radio, print, and internet ads. In contrast, public relations involve unpaid communications such as press releases, exhibitions, sponsorships, seminars, conferences, and events. The effectiveness of these promotional strategies contributes significantly to a product's visibility and market success.

People

Is mostly applied when talk about services, this factor is really important to identify how the people, our potential customer, react to our marketing plan. Is also to

identify the target that we have in order to create our marketing plan and improve our sales.



Figure 3: 5 P's of marketing

According to CREST (2022), alternative tourism has grown in tourist preferences in the last decade, and especially after COVID, tourists are less interested in mass tourism. Rural tourism and nature tourism have become more popular. Likewise, new generations of travelers are looking to have a positive impact on the local communities they visit, are more concerned about the impact on the environment and are looking for a more responsible and sustainable tourism. This is supported by surveys conducted by different entities. For example, Booking.com's 2020 survey found that 53% of the travelers want of global travelers wanting to travel more sustainably in the future. 69% expect the travel industry to offer more sustainable travel options. Research from American Express Travel showed that 68% of respondents agree they are trying to be more aware of sustainability-friendly travel brands to support.

Ecotourism's popularity is often attributed to its ability to provide a contrast to everyday life, particularly appealing to urban populations in industrialized countries

with limited access to natural recreational spaces. This is especially true for wildlife tourism, which has gained popularity among individuals described as "urban and remote from the natural world" (Mehmetoglu, 2007; Reynolds & Braithwaite, 2001). Ecotourists choose to travel to remote and underdeveloped areas, seeking recreational challenges and educational experiences. By engaging in low-impact, locally operated initiatives, they contribute to local economies while receiving goods and services (Kumble, 2011).

The emphasis on such initiatives aims to channel revenue into the local economy without the negative impacts typically associated with traditional mass tourism. The increasing interest in nature experiences during leisure time and vacations, contributing to the growing popularity of ecotourism, is believed to be influenced by the portrayal of nature and wildlife in popular media such as documentaries, magazines, and motion pictures (Lemelin, 2006; Newsome & Hughes, 2017).

Donohoe and Needham (2008) mentioned that emphasizing holistic environmental and socio-cultural values, marketing is a flexible strategy that addresses both long-term strategic goals and short-term tactical manoeuvres, all with a focus on sustainability. Particularly pertinent in analysing contemporary market dynamics, marketing has the potential to significantly contribute to sustainable development through initiatives such as quality product design, accountable delivery, and leading by example. Ultimately, marketing serves as a facilitator for sustainable business practices, ensuring efficient and effective operations.

The media plays a crucial role in shaping people's perceptions of destinations and tourist attractions. It has the power to raise awareness, influence attitudes, and set expectations for touristic activities. While media can positively impact expectations, there is a risk of overpromising, potentially leading to disappointment when reality falls short of the created images or glorified portrayals (Wang et al., 2015; Michalkó et al., 2015; Crompton, 1983). In recent times, the rapid expansion of social media platforms like Facebook, Instagram, and TikTok, along with the increasing significance of social media influencers, has been recognized for its influential role in shaping perceptions of destinations (Fatanti & Suyadnya, 2015; Seeler et al., 2019).

2.1.6 Ecotourism in Protected Areas.

Since the 80's the world 's system of protected areas has grown, especially in the know as developing countries as the biodiversity is greatest. The new mission of the protected areas does not only include biodiversity conservation, but also improving human welfare (Naughton-Treves, Buck and Brandon (2005). According to Eagles, P. et al. (2002), Tourism has become the leading global industry, with a growing emphasis on protected areas. It is essential to effectively manage tourist activities to ensure visitors can enjoy these areas without causing harm to the natural beauty they seek to experience. Protected areas play a key role in biodiversity conservation around the world, and can be of different sizes, limited by different factors, and even cross borders when two or more countries reach agreements to protect a shared space. Although each country has its classification of these protected areas, the objective is the same, the protection of biodiversity (Dudley, 2008). According to the specific objective of each protected area, the management will be different, for example, there are protected areas dedicated only to research, so tourism will not be possible. However, in protected areas where tourism is allowed, it also has its variations, the main thing is to distinguish between ecotourism and nature-based tourism.

With the development of tourism, research, and new trends, more and more authors are pointing out the differences between these two terms. In general terms, ecotourism seeks the preservation and protection of the place visited, with a focus on sustainability, always trying to support local development. While nature-based tourism is understood as the activity of visiting and appreciating a natural place, activities like diving, hiking, campfire, picnics, taking photographs, learning, etc.

Research conducted across 34 countries in the developing world and published in Science Advances concluded that households located within 10 km of a protected area with documented tourist visits had 17% higher wealth levels and 16% lower likelihood of poverty than similar households living far from protected areas, demonstrating how protected areas and nature-based tourism can positively affect human well-being in developing countries (Naidoo et al., 2019).

2. 2 Protected areas

2.2.1 Importance of protected areas

A protected area serves as a dedicated sanctuary, encompassing both land and sea, with a primary focus on preserving and nurturing biological diversity, natural

habitats, and resources. Its aim extends beyond safeguarding these elements to also include the conservation of associated cultural heritage. To achieve this, such areas are meticulously managed and upheld through a system of legal frameworks or other effective means. Through these measures, the protected area stands as a bastion, ensuring the sustained existence of diverse ecosystems and the rich cultural tapestry interwoven within them (IUCN, 2000). The creation and management of protected areas is important for environmental conservation.

According to the IUCN, there are six management categories for protected areas (Dudley, N, 2008):

a. Category I: Strict Nature Reserve / Wilderness Area: Protected Area managed primarily for scientific or nature protection purposes.

1) Category IA: Strict Nature Reserve: Protected Area managed mainly for scientific purposes.

2) Category IB: Natural Wilderness Area: Protected Area managed mainly for nature protection purposes.

b. Category II: National Park: Protected Area managed mainly for the conservation of ecosystems and nature protection purposes.

c. Category III: Natural Monument: Protected Area managed primarily for the conservation of specific natural features.

d. Category IV: Habitat/Species Management Area: Protected Area managed primarily for conservation, with management intervention.

e. Category V: Landscape and Seascape Protected Area: Protected Area managed primarily for the conservation of landscapes and seascapes.

f. Category VI: Managed Resource Protected Area: Protected Area managed primarily for the sustainable use of ecosystems.

Protected areas can be local, national, or regional. Natural protected areas are important because they maintain environmental stability, ecological processes, and the productive capacity of ecosystems while providing various ecosystem services to local populations. Ecosystem services are the components of ecosystems that are enjoyed, consumed, or used for human well-being (Boyd & Banzhaf, 2007; MacKinnon, 1996).

Ecosystem services have different classifications according to different authors, however, one of the most widely used is the Millennium Ecosystem Assessment, which classifies ecosystem services into four main groups Figure 4. The importance of protected areas is to be able to use these services without depriving future generations from using them.

Supply services	Regulatory Services	Cultural Services	Underpinning Services
<ul style="list-style-type: none"> • Products obtained from ecosystems • Food • Freshwater • Fuelwood • Fibres • Biochemicals • Genetic resources 	<ul style="list-style-type: none"> • Benefits obtained from the regulation of processes • Climate regulation • Regulation of disease • Water regulation and water regulation and sanitation • Pollination 	<ul style="list-style-type: none"> • Non-material benefits obtained from ecosystems • Spiritual and religious • Recreational and tourism • Aesthetic • Inspirational • Educational • Site identity • Cultural heritage 	<ul style="list-style-type: none"> • Services necessary for the production of other ecosystem services. • Soil formation. Nutrient recycling. Primary production

Figure 4: Classification of ecosystem services according to Millennium Ecosystem Assessment (2005)

According to Ospina et al. (2020), there are five components of the protected area concept:

1. geographic delimitation (boundaries)
2. conservation objectives (specific to each area)
3. biodiversity attributes (current conservation status of the area)
4. official declaration (official declaration)
5. administration, regulation, and management.

2.2.2 Management of Protected areas: Design, planning, and evaluation.

Protected area management is not an exact science, although the overall objective is to protect the area, several factors influence the management of each protected area, for example, the level of biodiversity, the complexity and fragility of its ecosystems, laws, cultural values, local communities living in the area and the specific objectives for the creation of each protected area (UICN/PNUMA, 1990; Cifuentes et al., 2000).

An important tool in the management of protected areas is the design of a management plan based on the characteristics and needs of each protected area. Although this management plan varies according to the area of interest, is possible to speak of some standard elements. A management plan should contain a) characterization and diagnosis of the current condition of the area, b) management based on zoning, c) parameters for the use of natural resources and definition of permitted activities, and d) strategies, objectives, and an action plan to fulfil the specific conservation objectives of the protected area (Ospina et al., 2020)

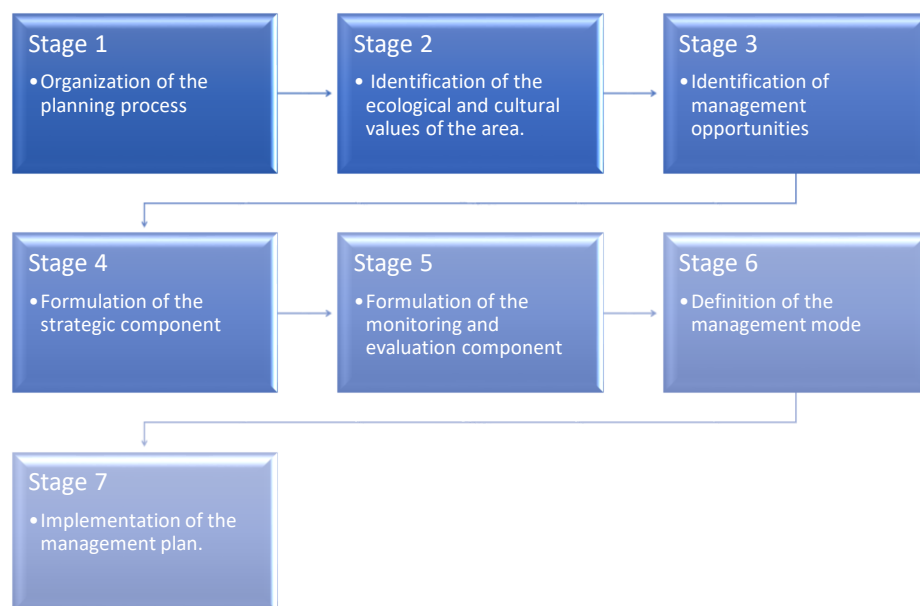


Figure 5: Stages for the elaboration of a management plan based on SINAC (2016)

The design of a management plan has several stages, which may vary according to different authors. However, to get an idea of what is behind the design, these steps can be taken (Figure 5). After the implementation of the management plan, constant monitoring and evaluation are necessary to determine whether the management plan is effective. This is because the management plan is a document that with changing circumstances and the passage of time becomes outdated and loses effectiveness under current conditions (Amend et al., 2002).

There are some approaches to assessing management effectiveness. Hockings et al. (2010) point out that there are four main approaches. 1) Assessment of the extent and location of protected areas, including biological and landscape diversity coverage. 2) Evaluation of the effectiveness of the areas as a mechanism for large-scale conservation, and the impact of protected areas on people. 3) Evaluating the

overall effectiveness of management of protected areas (PAME) and 4) Results of protected areas in conserving their biodiversity values.

According to Ospina (2020), there are some elements for the analysis of the effectiveness of the management plan. The achievements, context, planning and follow-up, governance, resources, and sustainable productive systems. This last element includes tourism as a strategy for nature conservation, that analyses whether the production systems and practices used in tourism are sustainable (in terms of socio-economic, biophysical, and technical production) to meet the objectives of the protected area and its areas of influence.

2.2.3 Skate holders for the management of protected areas

Skate holder is defined as persons; neighbourhoods; institutions; groups; organizations; or communities that can affect the achievement of an organization's objectives or who is affected by the achievement of an organization's objectives (Mitchell et al., 1997; Freeman and Reed, 1983). There are other definitions by different authors, over time have been increasing or changing their definition. There are two groups of skate holders according to Clarkson (1995), the primary stake holders and secondary skate holders and are defined by Cla:

Primary skate holders

Stakeholders, essential for a corporation's survival, encompass shareholders, employees, customers, suppliers, and the public sector. This includes governments and communities providing infrastructure, regulating organizational activity, and enforcing taxes. The mutual dependency between the organization and primary stakeholders underscores the importance of managers creating value for each group. This approach ensures sustained relationships and stakeholder retention.

Secondary skate holders

Secondary stakeholders refer to those who impact or are impacted by the corporation without engaging in transactions essential for its survival. This category includes competition, media, trade associations, and support groups (special interest). While the firm is not dependent on these groups for survival and lacks contractual obligations or authority with them, they have the potential to cause significant disruptions to the firm.

In the management of protected areas is crucial to consider the skate holders. The effective incorporation of protected areas and their surrounding relies on

collaborations among different stakeholders, involving practitioners, policymakers, and local communities (Kothari 2008, Lockwood et al. 2012). If this incorporation does not success to engage local communities and practitioners can result in a lack of support, rendering the goals of integrated conservation approaches ineffective (Mannetti et al., 2019). Is not possible to get every skate holder, however, is posible identify the main group according to the organization's objectives.

This research is focus on protected areas, so the main skate holders will include local governments, local communities, NGOs, ecological groups and if tourism is included as one of the allowed activities in a protected area, it must be included also tourists, travel agencies and other tourism service providers as stake holders (Dologlou, 2016).The sustainable viability of collaborative governance and management in protected areas hinges on the mutual benefits accruing to stakeholders within the partnership. Biodiversity advantages extend to governments, the scientific community, and non-governmental organizations, aligning harmoniously with socio-economic benefits that accrue to the private sector and local communities (De Koning and Avramoski, 2021).

Is necessary to identify these groups in order to plan strategies to get their interest in the conservation of the protected area. Also, is necessary to evaluate each skate holder, for this exist different methods and matrices (Figure 6 and Figure 7) that take in consideration different factors, but the two main factors are power and importance or potential.

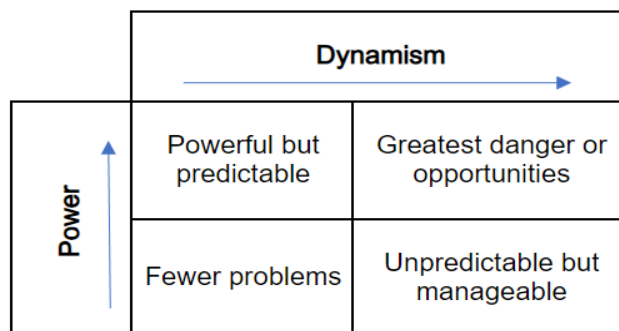


Figure 6: Power/Dynamism Matrix based on Gardner et al. (1986)

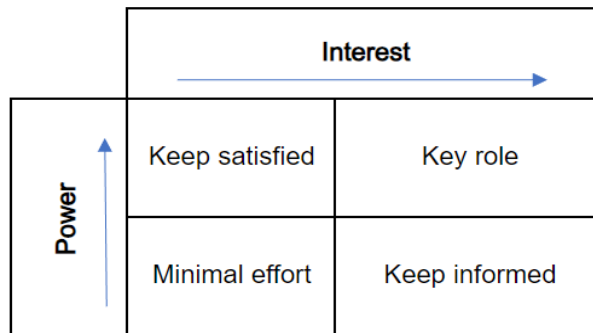


Figure 7: Power/Interest Matrix based on Mendelow (1991)

Power denotes the ability of one party to influence another into actions they might not have initially considered. Given its dynamic nature, power is a variable and not a fixed state, rendering it temporary as it can be acquired or relinquished (Mitchell et al.,1997).

Importance is the significance of influencing or being influenced by policies and institutions is contingent upon specific contextual and locational characteristics, such as knowledge and rights. Notably, stakeholders with substantial potential but limited power are of particular concern. The issues, needs, and interests of these stakeholders are likely to be pivotal for numerous initiatives aimed at enhancing processes related to policies and institutions (Mayers, 2005).

Regarding the planification of tourism like any other project, needs a strategic management process that begins with envisioning the future (vision) and defining the organization's long-term purpose (mission). Objectives, concrete goals, follow suit. External and internal analysis, often conducted through SWOT analysis, helps identify environmental threats and opportunities (external factors), as well as organizational strengths and weaknesses (internal factors). Based on this analysis, organizations can formulate appropriate strategies (Gurel, 2017).

Strategic choice, aligned with vision, mission, objectives, and analysis, involves selecting the theory of how to obtain a competitive advantage. Implementation of the chosen strategy is crucial, as strategy means nothing without execution. Strategy implementation entails adopting organizational policies and practices consistent with the chosen strategy. The goal of this process is to attain a competitive advantage (Barney and Hesterly, 2006).

2.3 Ecotourism in Congo

2.3.1 Description of Republic of Congo.

Africa is continent known because of its biodiversity. According to the UNWTO data, in the first seven months of the year, international arrivals across Africa were up 171% over 2021 levels, and in Figure 3 shows that Africa is the second-best recovering region post COVID. This may be due to the fact that nature tourism grew after covid, but also because the pre-covid numbers were not the highest. The 65th session of the UNWTO Regional Commission for Africa convened with participation from 25 tourism ministers and representatives from 35 countries, alongside private sector leaders. Held in Tanzania shortly after World Tourism Day, the meeting centered around the theme "Rethinking Tourism," emphasizing innovation, branding, employment, education, and partnerships (UNWTO, 2022).

The Republic of Congo, also known as Congo-Brazaville in order to avoid confusion with the Democratic Republic of Congo, is located in Africa, Brazaville is the capital city and it is bordered by Gabon, Cameroon, Central African Republic, Democratic Republic of Congo and Angola. According to Britannica (2024) Republic of Congo has the following demographic/social, political, economic and environmental information.

Demographic/Social

- Estimated population of 61161000 people by 2023
- French is the official language, but they also have two local languages are *Lingala* and *Monokutuba*.
- By the 2020 it was 67,8% urban population and 32.2% rural population.
- By 2020 were identified different ethnics groups on the county (Figure 8)
- By 2023 40.4% is population under 15, 25.3% between 15-29 years old, 17,5% between 30-44 years old. This is a result of the high birth rate, one of the highest in the world.
- Petroleum and mining the major export industries followed by forestry, agriculture and fishing.

Republic of the Congo ethnic composition (2000)

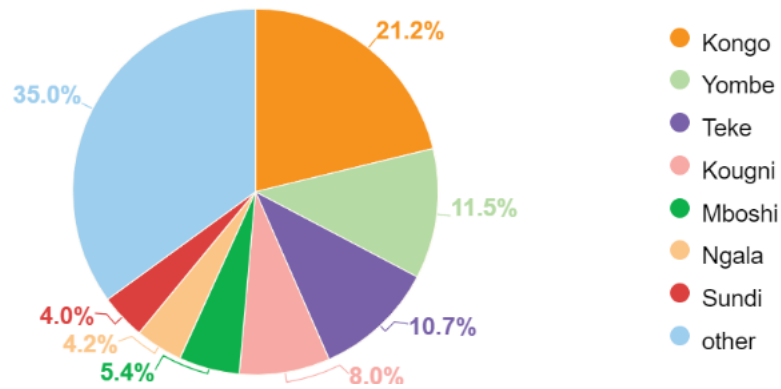


Figure 8: Republic of the Congo ethnic composition 2000 taken from Britannica (2024)

Political

- Congo is a republic with two legislative houses: Senate and National Assembly
- President of the Republic since 1997: Denis Sassou-Nguesso
- Prime Minister since 2021: Anatole Collinet Makosso
- Congo is divided in twelve departments and these departments are divided into 86 sub-prefectures.

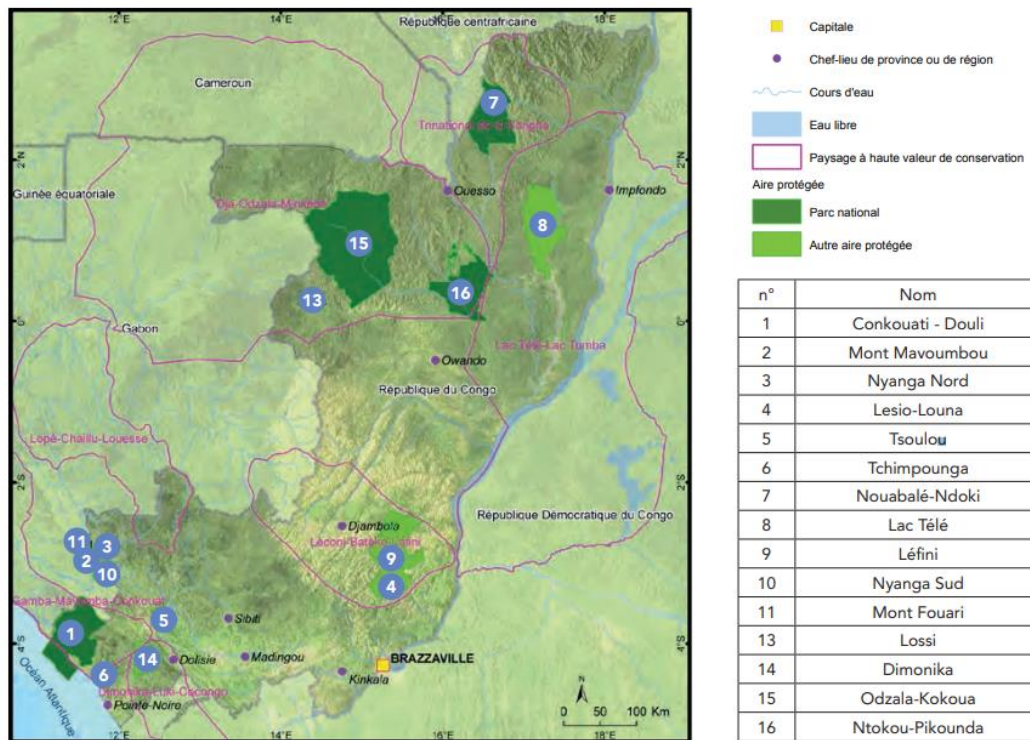
Ecological

- The rain forest in Congo represents around 10% of all dense African rain forest. Around 69% of national territory is forest.
- Main causes of loss of ecosystems are deforestation, proliferation of invasive species, climate change.
- Biodiversity (Table 2)

Mammals	200 species / 14 threatened species
Birds	676 species / 5 threatened species
Reptiles	151 species / 4 threatened species
Amphibians	74 species / no threatened species
Fish	355 species / 47 threatened species

Table 2: Species biodiversity in Congo based on Doumenge et al. (2015), IUCN (2014) and DGDD (2014).

- There are 16 protected areas in Congo (Figure 9)



* Toutes les aires protégées n'ont pas pu être cartographiées du fait du manque de données géolocalisées

Figure 9: Map of protected areas in Congo from Doumenge et al. (2015)

The *Tsoulou* Reserve is of great ecological importance in the region because it is part of the Congo-Basin area. According to the WWF (2024), the Congo Basin is renowned as one of the most significant remaining wilderness areas on the planet and ranks as the world's second-largest tropical forest. Spanning across six countries, Cameroon, Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Equatorial Guinea, and Gabon, it harbors a diverse array of flora and fauna. Within the Congo Basin, an estimated 10,000 species of tropical plants thrive, with approximately 30 percent of them being endemic to the region. Its lush forests are home to endangered wildlife, such as forest elephants, chimpanzees, bonobos, and both lowland and mountain gorillas. Moreover, the region hosts around 400 other species of mammals, 1,000 species of birds, and 700 species of fish, underscoring its immense ecological richness and importance.

The main objective of this thesis is to determine the viability of ecotourism as a sustainable approach to managing the *Tsoulou* Reserve. To achieve this aim, specific objectives have been outlined. These objectives include the characterization of the potential for integrating ecotourism as a visitation model within the reserve. Additionally, they entail an evaluation of the distinctive attributes of the *Tsoulou* Reserve in comparison to analogous tourist destinations within the region.

Furthermore, the objectives involve an examination of the current logistical prerequisites for accessing the reserve from both Pointe-Noire and Brazzaville airports. Moreover, they necessitate an identification of potential clientele, both domestically and internationally, as well as local tourism operators. Furthermore, the objectives include considerations of the seasonal variations in visitation patterns to the reserve, proposing effective marketing strategies, and estimating the prospective revenue streams derived from ecotourism initiatives.

3. Methodology

3.1 Case Study

3.1.1 Description of the study area

This research was conducted within the *Tsoulou* Reserve, situated in the Republic of Congo (Figure 10). It is located in the south-west of the Republic of Congo in the Niari department near the town of Dolisie. This reserve was designated *Réserve de Faune* at National level in 1963 and covers 290.12km² according to the Digital Observatory for Protected Areas (DOPA) Explorer (2024).

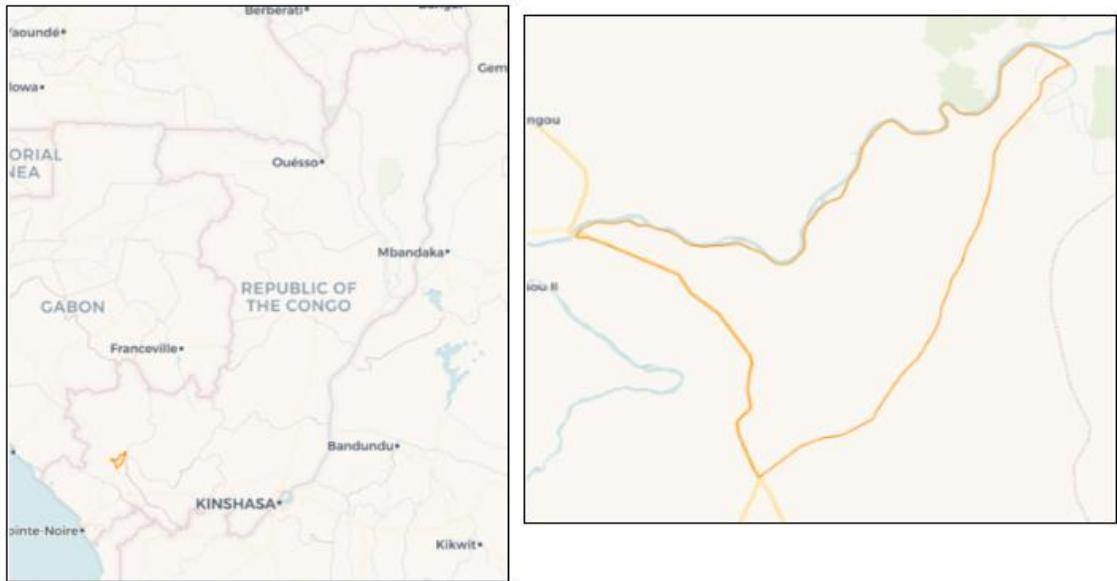


Figure 10: *Tsoulou* Reserve in Congo and *Tsoulou* Reserve (DOPA, 2024)

3.2 Data collection

Data collection refers to the various techniques employed to gather information pertinent to the study's variables, with the aim of facilitating data analysis to yield study results, answer research questions, or test hypotheses. It serves as a crucial stage in research, capable of enhancing result quality by minimizing potential errors throughout the project's duration. While a well-designed study is essential, allocating ample time to data collection is equally imperative to ensure the acquisition of accurate and sufficient data, thereby bolstering the credibility of findings serving as a conduit for transforming theoretical concepts into tangible insights. By prioritizing rigorous data collection practices, researchers can unlock the full potential of their

studies, yielding findings that are not only scientifically rigorous but also actionable and impactful (Olsen 2012 and Taherdoost, 2021).

There are two methods of data collection, primary data collection methods and secondary data collection methods. Primary data collection involves gathering information firsthand, often through direct interaction with sources or through firsthand observations. This method offers researchers the opportunity to tailor data collection instruments to specific research objectives, ensuring the relevance and specificity of the data obtained. Conversely, secondary data collection entails utilizing existing data sources, such as academic papers, reports, or databases, which have been previously collected by other researchers or organizations. While secondary data can provide valuable insights and context, researchers may encounter limitations related to data availability, relevance, and reliability.

In the context of this research, were strategically employed both primary and secondary data collection methods to comprehensively explore the intricacies of ecotourism development within the *Tsoulou* reserve. The primary data collection component involved immersive field research, in this case the reserve area to conduct firsthand observations, engage in interviews with local stakeholders, and document the unique features and dynamics of the environment. By directly interacting with local inhabitants and key stakeholders, was possible to capture firsthand perspectives, insights, and experiences related to ecotourism within the reserve.

Complementing the primary data collection efforts, was also conducted extensive documentary research to supplement the findings. This involved gathering and analyzing existing literature, reports, and policies pertaining to the management of protected areas, ecotourism practices, and marketing strategies relevant to the study context. Through this secondary data collection method, was possible to gain valuable insights into broader trends, best practices, and theoretical frameworks guiding ecotourism development and management.

By combining both primary and secondary data collection methods, was adopted a holistic approach to research that enabled us to triangulate findings, validate insights, and construct a comprehensive understanding of ecotourism dynamics within the *Tsoulou* reserve. This multifaceted approach ensured the robustness and credibility of the research outcomes, ultimately enhancing the relevance and impact of the study within the field of ecotourism management and conservation.

3.2.1 Field study

The field investigation in the Republic of Congo, started in its capital, Brazzaville. The primary objective was to understand its dynamics and gaining a comprehensive understanding of the transportation logistics, particularly to and from the airport. Following the time in Brazzaville, the journey continued to *Kimbindouka*, which acted as the central spot for all transfers to and from various destinations within the *Tsoulou* Reserve. This location served as the gateway to the heart of the reserve, facilitating seamless transitions and logistical operations throughout the journey.

Throughout the expedition, were conducted several visits to explore numerous points of interest within the reserve and its surrounding areas. the objective was twofold: to uncover the tourism potential inherent in the region and to evaluate the existing facilities. This comprehensive approach allowed us to compile a thorough tourist inventory of the study site, providing invaluable insights for future development initiatives.

To facilitate this process, were filled out information cards (Figure 11) containing a wealth of pertinent details. These cards served as repositories for crucial information, including but not limited to geographical coordinates, notable features of each site, accessibility factors, available amenities, and any unique characteristics or attractions. Through this systematic data collection process, was possible to create a comprehensive repository of information that would serve as a valuable resource for stakeholders involved in the development and management of tourism within the reserve.

Information Card N:		
Name :		PICTURE
Location:		
Category		
Type:		
Subtype:		
Description:		
Level of preservation:		
Access:		
Observations:		

Figure 11: Information Card own elaboration based on Huizar and Villanueva (2021)

The information cards were filled with the following information:

- Card Number (in order to have an order in the system)
- Name of the resource or attraction with tourist potential.
- Category type and subtype (According to the classification of Bote, 2002)
- Small description with activities allowed.
- Level of preservation
- Access
- Observations
- Picture (if available)

Furthermore, the assessment went beyond mere observation; were identified the intrinsic and extrinsic criteria of each attraction within the reserve. By identifying and analyzing these criteria, was possible to process a multi-criteria evaluation. Following the methodology proposed by Franco et al. (2009), was evaluated each attraction against a set of predetermined criteria. With this methodology, the matrix proposed was adapted (Table 3 and Table 4).

Intrinsic criteria			
Resource	Criteria	Attribute	Characteristic
Terrestrial (Mountains , trails, view points)	a) Land cover	a1) Vegetation	Abundant (A) Enough (E) Sparse (S)
	b) Land conditions	b1) Gradient	Very Inclined (VE) Inclined (I) A bit inclined (BI) Flat (F)
		b2) Surface	Stony (S) Flooded (F) Compact (C) Grassland (G) Other (O)
		b3) Difficulty	High (H) Medium (M) Low (L)
Water resources (Lakes, rivers, etc)	c) Characteristic	c1) Size	Large (L) Medium (M) Small (S)
		c2) Transparency	Crystal clear (C) Semi-turbid (ST) Turbid (T)
	d) Additional	d1) Biodiversity	Abundant (A) Enough (E) Sparse (S)
		d2) Distance	In the reserve (I) Out of the reserve (O)

Table 3: Intrinsic criteria matrix based on Franco et al. (2009)

This systematic evaluation process allowed us to rank the attractions based on their overall appeal and potential. By assigning values to both intrinsic qualities (such

vegetation, land use, biodiversity, distances, etc.) and extrinsic factors (such as accessibility, infrastructure, or services), is possible to understanding of the diverse range of attractions within the area. As this evaluation is qualitative was needed to give values to the characteristics to have quantitative values and be able to hierarchize.

Ultimately, this approach serves as a valuable tool for identifying the primary tourism hotspots within the reserve. By pinpointing attractions with the highest combined intrinsic and extrinsic values, was possible to effectively prioritize resource allocation and development efforts, maximizing the area's touristic potential while ensuring sustainable management practices.

Extrinsic criteria			
Resource	Criteria	Attribute	Characteristic
Terrestrial (Mountains, trails, view points)	e) Access	e1) Time of walk	Long (A) Medium (E) Short (S)
		f) Infraestructure and services	f1) Signage
	f2) Equipment		Enough (E) Some (S) None (N)
	f3) Recreational facilities		Enough (E) Some (S) None (N)
	f4) Activities		Enough (E) Some (S) None (N)
	f5) Safety		Very Safe (VS) Safe (S) A bit dangerous (BD) Dangerous (D)
Water resources (Lakes, rivers, etc)	g) Potential	g1) conservation state	Excellent (E) Very good (VG) Good (G) Bad (B)
		g2) Environment quality	Excellent (E) Very good (VG) Good (G) Bad (B)
		g3) Interest	High (H) Some (M) Low (L) None (N)
		g4) Fragility	High (H) Medium (M) Low (L)
		g5) Pollution	Yes (Y) No (N)

Table 4: Extrinsic criteria matrix based on Franco et al. (2009)

3.2.2 Interviews

In addition to the comprehensive assessments, were conducted walking interviews with the residents living and working within the *Tsoulou* reserve. The walking interviews is method of collecting data in which the resource of mobility and location is used to enhance the interaction between interviewee and interviewer. Basically, it is a technique in which the interview takes place while walking somewhere, with the objective of making the interview flow in a better way since it allows the participants to feel more comfortable and at the same time provides the interviewer with the opportunity to analyze the interviewee's reaction to the environment (Raulet-Croset, N. and Borzeix, A. 2014). These interactions provided invaluable insights into the community's perspectives, aspirations, and concerns regarding tourism development in their area. While some conversations were informal and spontaneous, reflecting the comfort level of the individuals involved, others were conducted as semi-structured interviews to ensure the collection of pertinent data for the research.

The informality of walking interviews offered a unique advantage: it fostered an atmosphere of trust and openness, encouraging participants to share their opinions and experiences more candidly. This approach allowed us to delve deeper into the perceptions of locals regarding various aspects of the reserve, including its management, the potential for tourism, and the anticipated benefits and drawbacks associated with such activities.

The questions were carefully crafted to elicit meaningful responses, probing into topics such as the community's perception of the reserve, their willingness to embrace tourism, and their expectations regarding potential benefits and participation opportunities. By actively involving residents in the dialogue surrounding tourism development, was possible to ensure that their voices were heard, and their perspectives considered in shaping future initiatives within the reserve.

Furthermore, in the quest for comprehensive insights, were conducted interviews with experts at both national and international levels who specialize in conservation efforts within protected areas and possess extensive experience in ecotourism development. These interviews were fundamental in enriching the understanding of tourism planning, particularly in the context of ecotourism within protected regions.

The semi-structured interviews were designed to elicit the nuanced perspectives of the experts. Basic but probing questions were posed in order to gain an in-depth view of the various facets of ecotourism development. Topics covered in the interviews ranged from the feasibility of ecotourism initiatives in protected areas to identifying key factors for effective tourism planning. The dialogue with these experts also delved into the risks associated with ecotourism activities, including potential environmental impacts and socio-economic. Were 6 experts in total and they will be identified with the letter E and a number in order to analyze the results as is presented in Table 5.

Identification	Name	Job title	Organizacion
E1	Antoine Szadeczki	Deputy director	Renatura NGO in Congo
E2	Pamela Arias	CWT Strategy Coordinator	WSC
E3	Wendy Willis	Founder/Conservation consultant	Tularyska Conservation Consulting in USA
E4	Michelle Hidrobo	Operation manager	Jocotours/Jocotoco Conservation Foundation
E5	Guido Saldaña	Coordinator of the Comprehensive Conservation Program of the Red Front Paraba	Armonia NGO in Bolivia
E6	Andrea Muñoz	Principal Investigator-Sustainable Tourism	Charles Darwing Foudation in Galapagos

Table 5: Identification of experts interviewed

Building upon the data collected from the tourism inventory and interviews conducted within the *Tsoulou* reserve, the primary stakeholders for the ecotourism project were discerned. This step involved identifying key individuals, organizations, and entities that hold significant influence or interest in the development and management of ecotourism initiatives within the reserve.

The identified stakeholders were then classified based on their respective power and interest levels. This classification process involved plotting stakeholders on matrix of power/interest axes, as depicted in Figure 7. By categorizing stakeholders according to these dimensions, researchers could discern their relative influence, level of engagement, and potential impact on the ecotourism project.

Understanding the power and interest dynamics of stakeholders is paramount for effective stakeholder management and decision-making processes. Stakeholders with high power and high interest levels, for instance, may warrant closer

collaboration and engagement strategies to ensure their needs and concerns are adequately addressed. Conversely, stakeholders with low power and low interest levels may require minimal attention in project planning and implementation.

By comprehensively analyzing stakeholder dynamics, researchers can glean valuable insights into the complexities of stakeholder relationships and anticipate potential challenges or opportunities that may arise throughout the ecotourism planning process. This information serves as a foundational framework for developing a robust and inclusive touristic plan that aligns with the diverse interests and objectives of stakeholders involved in the *Tsoulou* reserve ecotourism

Once all the information gathered from various tables and matrices was obtained and classified, the next crucial step was to leverage these insights to devise strategic approaches aimed at mitigating potential challenges while maximizing opportunities for the success of the ecotourism project within the *Tsoulou* reserve.

Drawing upon the nuanced understanding of stakeholder dynamics, resource availability, and environmental considerations gleaned from the data analysis, a multifaceted strategy was developed. This strategy aimed to address key issues identified through the classification process while capitalizing on the strengths and opportunities in the project.

For instance, stakeholders identified as having significant power and interest in the project were engaged through targeted communication and consultation efforts, ensuring their perspectives were considered and integrated into decision-making processes. By fostering open dialogue and collaboration with these influential stakeholders, potential conflicts or resistance to the project could be mitigated, thereby promoting smoother project implementation.

Simultaneously, strategies were devised to address any identified weaknesses or constraints identified during the analysis phase. This may include measures to enhance infrastructure, improve stakeholder relations, or implement environmental conservation initiatives to mitigate potential negative impacts on the reserve. Furthermore, opportunities identified through the analysis were capitalized upon to enhance the project's overall viability and sustainability.

By systematically translating data-driven insights into actionable strategies, the project team aimed to navigate potential challenges while harnessing the full potential of the *Tsoulou* reserve ecotourism project. This approach to strategy development ensured that the project was responsive to evolving stakeholder

needs, environmental considerations, and market dynamics, ultimately increasing the likelihood of project success and long-term sustainability.

3.2.3 Documentary research

During this phase of the research, we gathered information that would allow us to get a general idea of the reserve's current situation. This multidisciplinary approach allows us to obtain crucial information that would serve as a basis for developing effective strategies and action plans necessary for the development of an ecotourism plan.

Data collection ranged from field observations and stakeholder consultations to in-depth analysis of existing literature and comparable case studies. The synthesis of these disparate sources of information provides a holistic understanding of the reserve's challenges, opportunities and potential pathways for sustainable development.

In particular, the examination of comparable case studies provided insights into the strategies and practices employed elsewhere in similar contexts. By scrutinizing the successes and shortcomings of these case studies, it was possible to still key lessons learned and best practices that could be adapted and applied within the context of the *Tsoulou* reserve.

This comparative analysis served as a guiding light, helping us identify what has proven effective in other settings and what has fallen short of expectations. The aim of this comprehensive information-gathering phase was to lay the groundwork for the development of a robust and sustainable ecotourism plan that not only capitalizes on the unique attributes of the reserve but also fosters meaningful engagement with local communities and promotes the long-term conservation of natural and cultural resources.

During the documentary research, various aspects of tourism planning in protected areas and explored strategies for tourism promotion were considered. This exploration served as a valuable foundation for developing a comprehensive guide or baseline to inform the tourism planning process specific to this study case.

Furthermore, data was gathered on tourist demographics, including the number of visitors originating from within the country and abroad. This information provided crucial insights into the trends and patterns of tourism flow, enabling us to better understand the preferences and behaviors of tourists visiting the area.

In addition to national data, we also considered tourism statistics available through the World Tourism Organization platform. This global perspective allowed us to compare results with international trends and best practices in tourism planning and management.

By synthesizing information from multiple sources and leveraging local and global perspectives, it was possible to develop a robust framework for developing effective tourism strategies tailored to the unique characteristics and needs of the area. This data-driven approach ensures that tourism planning efforts are not only based on current trends and practices, but also respond to the dynamic nature of the tourism industry.

4. Results

This chapter will outline the findings obtained from the research conducted across the two research phases: the field study and the documentary research. The field study includes the data gathered through observation, the information cards, and interviews. Within the field study phase, data collection was multi-faceted, including the information cards to systematically document key details and attributes of the touristic resources within the study area. Additionally, an evaluation of these resources was conducted, as mentioned before, using the Table 3 and Table 4. To begin with, will be explained the results from the information cards and the multi-criteria evaluation for later present the results from the interviews at the end will be present the results from the documentary research.

4.1 Field study

During the visit to the *Tsoulou* Reserve, it was possible to identify six main touristic resources that could be the primary attractions in order to promote the tourist activities in these areas. Is important to mention that, unfortunately was not possible to visit all the reserve due to its size and time. However, those 6 main resources were selected after some visits and after talking with the local communities. Is important to understand that the *Tsoulou* Reserve is a touristic resource itself but due to its size and diversity of landscapes it was possible to identify other resources in the reserve.

The first resource identified was the Blue River, also known as '*La Rivière Bleue*' in French (Figure 11). It is a location cherished by locals, featuring a small river with

crystal-clear water where visitors can swim, snorkel, or kayak to various spots. There is a designated area for camping, and a small community resides here. They request an economic contribution for the camping space, and food arrangements can be made. However, one challenge of this location is the unreliable signal, making communication difficult with the necessary individuals.

Information Card N: 1		
Name :	Blue River	
Location:	Tsoulou Reserve	
Category	Natural areas	
Type:	River	
Subtype:	(N/A)	
Description:	A place with crystal clear water, it is possible to camp and do activities such as kayaking and snorkeling. Also trails around it.	
Level of preservation:	High as not many people knows about it	
Access:	Motorbike recommended/ Or by kayak if the water level is appropriate	
Observations:	There is a community living there	

Figure 11: Information Card N 1 own elaboration based on Huizar and Villanueva (2021)

The second location is a mountain they've aptly named Chocolate Mountain (Figure 12). This destination caters perfectly to mountain enthusiasts and offers ample opportunities for trekking activities. The entire hike typically spans approximately 5 hours starting from the road. Since there isn't an established path, hikers must traverse through grasslands and navigate across rocky terrain to reach the mountain's summit. Interestingly, evidence of elephants and other wildlife has been discovered within this mountainous region.


Information Card N: 2		
Name :	Chocolate mountain	
Location:	On the way to Tsoulou Reserve	
Category	Natural areas	
Type:	Mountain	
Subtype:	Mountain	
Description:	Is a mountain with good view. Around 5 hours walking from the road.	
Level of preservation:	High as not many people knows about it	
Access:	There is not a proper trail from the road. But is accessible by walk.	
Observations:	Not reccomended to go alone, but with a local guide.	

Figure 12: Information Card N 2 own elaboration based on Huizar and Villanueva (2021)

The third site with tourist potential is one of the most important, the Niari River (Figure 13), which is approximately 560 km long. It flows through several communities and is the boundary of the *Tsoulou* Reserve. Various activities are possible on this river, such as kayaking. The local community uses it to move around, also people fish and even wash clothes in different parts of the river, especially areas close to local communities. On the other hand, in other areas of the river, the local community claims that it has been possible to observe hippos, and when the water level drops, elephants cross from one side of the river to the other.


Information Card N: 3		
Name :	Niari River	
Location:	Tsoulou reserve and surrounding	
Category	Natural areas	
Type:	River	
Subtype:	(N/A)	
Description:	The niari rivers is the bigger river in this area, is connected with blue river and other small rivers. People mentioned that when water level is low, elephant cross the river, other people mentioned that is possible to observe hippos.	
Level of preservation:	Medium, some areas are clear but others not much because local communities use the river for different activities, as washing clothes, showers, or sand extraction.	
Access:	Due to is so big can access by walk, car, motorbike, etc.	
Observations:	This river not only have natural importance but also cultural.	

Figure 13: Infomation Card N 3 own elaboration based on Huizar and Villanueva (2021)

The tourist resource number 4 is a lagoon near the community of *Makabana*, this is a very interesting place to visit for the biodiversity of plants that can be found around

it, and being an open place is a good spot for bird watching. On the other hand, it offers a different landscape and could be a good place to camp before continuing touring the *Tsoulou* Reserve. The access can be on foot, or by motorcycle to where there is a marked road and then walking. It can also be done by kayak to observe all the surroundings.


Information Card N: 4		
Name :	Small Lagoon (no name)	
Location:	Makabana/ Tsoulou	
Category	Natural areas	
Type:	Lagoon	
Subtype:	(N/A)	
Description:	Is small lagoon where people from local communities fish. Here is possible to observe also some bird spicies due to is an open landscape it makes it easier	
Level of preservation:	High due to is hidden and is not an easy access.	
Access:	By motorbike until one point and then It is necessary to walk along flooded paths.	
Observations:		

Figure 14: Information Card 4 own elaboration based on Huizar and Villanueva (2021)

The next tourist resource is a project that was created recently and is an Eco farm (Figure 15) located in Kimbidouka. At the moment it does not have many animals, but the place is being adapted to receive more animals, even from different countries thanks to agreements with international partners. This place is easily accessible and has potential for ecotourism and has the potential for an environmental interpretation site where visitors can learn more about the importance of these animals, their care and why they could be threatened.


Information Card N: 5		
Name :	Eco Farm	
Location:	Kimbindouka	
Category	Natural areas	
Type:	Observation of flora and fauna	
Subtype:	(N/A)	
Description:	Small ecofarm, is just starting the operations. Not much animals yet	
Level of preservation:	Medium: Infraestructure can improve	
Access:	By motobike or walk only	
Observations:	They are planning to receive more animals	

Figure 15: Information Card N 5 own elaboration based on Huizar and Villanueva (2021)

The last tourist resource identified is the so-called "*Monts de la lune*", located near the village of Mila-Mila in the *Tsoulou* Reserve. This group of mountains offers a very particular landscape due to the shape of the mountains. In this place it is possible to hike around and climb the mountains, they are not very high, so the difficulty is not so high. It is also a good place for photography tourism.


Information Card N: 6		
Name :	Monts de la lune	
Location:	Tsoulou	
Category	Natural areas	
Type:	Mountain	
Subtype:	Plateau	
Description:	Good place to observe the landscape and different flora and fauna.	
Level of preservation:	Medium: Needs better access.	
Access:	Motobike and by walk	
Observations:	Usually is possible to see cattle grazing there.	

Figure 16: Information Card N 6 own elaboration based on Huizar and Villanueva (2021)

After having identified the potential tourist attractions related to the *Tsoulou* reserve and having filled out the information sheets, an assessment of each of the tourist

attractions was carried out according to the matrices proposed by Franco (2009), which were adapted to the particularities of this case study. These matrices are prepared in-house with the information obtained from field research and supported by the corresponding bibliography.

To begin with, we have the Intrinsic Criteria Evaluation Matrix (Table 6) for each of the identified resources. This matrix divides resources into two groups, terrestrial and water resources. The terrestrial resources were evaluated according to 4 criteria, vegetation, gradient, surface and difficulty. While the water resources were evaluated according to size, transparency, biodiversity and distance. The evaluation was made according to the table 3.

Resource	Intrinsic criteria			
	a1) Vegetation	b1) Gradient	b2) Surface	b3) Difficulty
Chocolate Mountain	A	VI	C	H
Moon mountain	E	I	G	M
Eco-Farm	E	BI	C	L
Water resources (Lakes, rivers, etc)	c1) Size	c2) Transparency	d1) Biodiversity	d2) Distance
Blue river	S	C	A	I
Niari River	L	ST	A	I
Small lagoon	S	ST	E	I

Table 6: Evaluation results of intrinsic criteria of tourist resources based on Franco et al. (2009)

After, the same resources were evaluated for the extrinsic criteria as it shows the table 7. Here the resources were also divided into two groups, terrestrial and water resources. The terrestrial resources were evaluated according to 6 criteria, time of walk, signage, equipment, recreational facilities, activities, safety. While the water resources were evaluated according to 5 criteria, conservation state, environment quality, interest, fragility, pollution. The evaluation was assigned with the data observed in the field study based on the table 4.

Resource	Extrinsic criteria					
Terrestrial (Mountains, trails, view points)	e1) Time of walk	f1) Signage	f2) Equipment	f3) Recreational facilities	f4) Activities	f5) Safety
Chocolate Mountain	L	N	N	N	E	S
Moon mountain	M	N	N	N	S	S
Eco-Farm	S	N	N	S	S	S
Water resources (Lakes, rivers, etc)	g1) conservation state	g2) Environment quality	g3) Interest	g4) Fragility	g5) Pollution	
Blue river	E	E	H	M	No	
Niari River	G	VG	H	M	Yes	
Small lagoon	G	E	L	M	No	

Table 7: Evaluation results of extrinsic criteria of tourist resources based on Franco et al. (2009)

In order to standardize the results, it was decided to convert these qualitative results into quantitative results, assigning numerical values to each assessment both in the evaluation of intrinsic criteria (table 8) giving as a result the table 9 and in the evaluation of extrinsic criteria (table 10) giving as a result table 11. Where 5 was assigned as the highest value and 1 as the lowest.

Intrinsic criteria					
Resource	Criteria	Attribute	Characteristic	Value	
Terrestrial (Mountains, trails, view points)	a) Land cover	a1) Vegetation	Abundant (A)	5	
			Enough (E)	3	
	Sparse (S)		1		
	b) Land conditions	b1) Gradient	b2) Surface	Very Inclined (VI)	1
				Inclined (I)	2
		A bit inclined (BI)		3	
Flat (F)		5			
b3) Difficulty	b2) Surface	Stony (S)	2		
		Flooded (F)	2		
		Compact (C)	5		
b3) Difficulty	b2) Surface	Grassland (G)	3		
		Other (O)	4		
		b3) Difficulty	b2) Surface	High (H)	2
Medium (M)	3				
Low (L)	5				
Water resources (Lakes, rivers, etc)	c) Characteristic	c1) Size	Large (L)	5	
			Medium (M)	3	
			Small (S)	2	
	c2) Transparency	c1) Size	Crystal clear (C)	5	
			Semi-turbid (ST)	3	
d) Additional	c2) Transparency	d1) Biodiversity	Turbid (T)	2	
			Abundant (A)	5	
	Enough (E)		3		
d2) Distance	d1) Biodiversity	Sparse (S)	1		
		In the reserve (I)	5		
	Out of the reserve (O)	2			

Table 8: Intrinsic criteria with numerical values

Resource	Intrinsic criteria			
Terrestrial (Mountains, trails, view points)	a1) Vegetation	b1) Gradient	b2) Surface	b3) Difficulty
Chocolate Mountain	5	1	5	2
Moon mountain	3	2	3	3
Eco-Farm	3	3	5	5
Water resources (Lakes, rivers, etc)	c1) Size	c2) Transparency	d1) Biodiversity	d2) Distance
Blue river	2	5	5	5
Niari River	5	3	5	5
Small lagoon	2	3	3	5

Table 9: Evaluation results of intrinsic criteria of tourist resources with numerical values based on Franco et al. (2009)

Extrinsic criteria					
Resource	Criteria	Attribute	Characteristic	Value	
Terrestrial (Mountains, trails, view points)	e) Access	e1) Time of walk	Long (A)	2	
			Medium (E)	3	
	Short (S)		5		
	f) Infraestructure and services	f1) Signage	f1) Signage	Enough (E)	5
				Some (S)	3
				None (N)	1
			f2) Equipment	Enough (E)	5
Some (S)				3	
None (N)	1				
f3) Recreational facilities	Enough (E)	5			
	Some (S)	3			
	None (N)	1			
f4) Activities	Enough (E)	5			
	Some (S)	3			
	None (N)	1			
f5) Safety	Very Safe (VS)	5			
	Safe (S)	4			
	A bit dangerous (BD)	2			
Dangerous (D)	1				
Water resources (Lakes, rivers, etc)	g) Potential	g1) conservation state	Excellent (E)	5	
			Very good (VG)	4	
			Good (G)	3	
			Bad (B)	2	
			Excellent (E)	5	
		g2) Environment quality	Very good (VG)	4	
			Good (G)	3	
		g3) Interest	Bad (B)	2	
			High (H)	5	
			Some (M)	4	
g4) Fragility	Low (L)	3			
	None (N)	1			
g5) Pollution	High (H)	1			
	Medium (M)	3			
	Low (L)	5			
g5) Pollution	Yes (Y)	3			
	No (N)	5			

Table 10: Extrinsic criteria with numerical values

Resource	Extrinsic criteria					f5) Safety
	e1) Time of walk	f1) Signage	f2) Equipment	Recreational facilities	f4) Activities	
Chocolate Mountain	2	1	1	1	5	4
Moon mountain	3	1	1	1	3	4
Eco-Farm	5	1	1	3	3	4
Water resources (Lakes, rivers, etc)	g1) conservation state	g2) Environment quality	g3) Interest	g4) Fragility	g5) Pollution	
Blue river	5	5	5	3	5	
Niari River	3	4	5	3	3	
Small lagoon	3	5	1	3	5	

Table 11: Evaluation results of intrinsic criteria of tourist resources with numerical values based on Franco et al. (2009)

Once we have both matrices with the standardized numerical values, the weight that each criterion would have for the valuation of each attraction was assigned, taking into account Franco's et al. (2009) proxy, in which 40% is assigned to the intrinsic criteria (table 12) and 60% to the extrinsic criteria (table 13).

Intrinsic criteria				
Resource	Criteria	Attribute	Weight	Total
Terrestrial (Mountains, trails, view points)	a) Land cover	a1) Vegetation	0,16	0,40
		b1) Gradient	0,06	
	b) Land conditions	b2) Surface	0,12	
		b3) Difficulty	0,06	
Water resources (Lakes, rivers, etc)	c) Characteristic	c1) Size	0,12	0,40
		c2) Transparency	0,08	
	d) Additional	d1) Biodiversity	0,14	
		d2) Distance	0,06	

Table 12: Weighting of intrinsic criteria

Extrinsic criteria				
Resource	Criteria	Attribute	Weight	Total
Terrestrial (Mountains, trails, view points)	e) Access	e1) Time of walk	0,05	0,60
		f) Infraestructure and services	f1) Signage	
	f2) Equipment		0,1	
	f3) Recreational facilities		0,1	
	f4) Activities		0,15	
	f5) Safety		0,1	
Water resources (Lakes, rivers, etc)	g) Potential	g1) conservation state	0,12	0,6
		g2) Environment quality	0,12	
		g3) Interest	0,2	
		g4) Fragility	0,08	
		g5) Pollution	0,08	

Table 13: Weighting of extrinsic criteria

Once the weighting was done, the total value of all intrinsic and extrinsic criteria for each resource was added up. Then the sum of the weighted values of each criterion, both intrinsic and extrinsic, was added up to obtain the sum of the weighted sums that would give us the final value of each attraction. With this value, the tourist resources were ranked in order of preference, with 1 being the resource with the highest value and 6 the resource with the lowest value (Table 14).

Resource	Sum of all the values	Sum weighted of intrinsic criteria	Sum weighted of extrinsic criteria	Total sum of weighted sums	Preference order
Chocolate Mountain	27	1,58	1,55	3,13	4
Moon mountain	24	1,14	1,3	2,44	6
Eco-Farm	33	1,56	1,6	3,16	3
Blue river	40	1,64	2,84	4,48	1
Niari River	36	1,84	2,32	4,16	2
Small lagoon	30	1,2	1,8	3	5

Table 14: Final matrix of multi-criteria evaluation

After completing the evaluation of the tourist attractions, it became evident that Blue River holds the greatest tourist potential according to this assessment. However, the results indicate that all resources possess tourism potential at varying levels.

4.2 Interviews.

The interviews were divided into two groups, on the one hand the on-site interviews, which were conducted with the reserve staff, people from the local community, and a volunteer who was at the site. The second part corresponds to interviews with experts, not only at the national level, but also at the international level. In total, 12 interview were conducted.

To begin with the local community, rather than interviews per se, these were a series of conversations with the local community that we had the opportunity to share during the field research. This was done in this way to facilitate interaction and to make the participants feel more comfortable answering the proposed questions. They were asked their opinion about tourism in their country, to which we had similar answers, they all agreed that most of the foreign tourists that come to their country come from France, they say that they like these tourists because they help the local economy although one interviewee said that many times these tourists come in all inclusive tours of big foreign companies and really the local community does not receive much profit. Here they were asked about the tourists that come from neighboring countries, and by their response it was evident that they do not consider them tourists, they responded by saying that they are not "foreigners" when they

were asked why, they said that most of the trips from a neighboring country to another is mainly for work, or for commercial reasons, sale or purchase of products rather than tourism, although they highlight that there are also some cases that come for tourism.

Another important point of these interviews was to ask them if they do tourism within their country, here the interviewees responded that they do not really travel much, maybe to another neighboring community, but it is mainly for work or to visit relatives. One of the interviewees mentioned that he has traveled to the capital Brazaville but only for health reasons since it is not easy to access certain specialties in his city, another interviewee mentioned that his trip to Brazaville was for study purposes, it was not really a trip but he had to move to have access to the university. Here they were asked if they do weekend activities with family or friends, maybe day visits to some place, here they mentioned that sometimes they do go to a nearby river to relax or to the zoo for the children who like to see the animals.

Continuing along the same line, they were asked why they do not travel as much within their country, to which the answers were based on two main factors, first the economic factor, not everyone can afford tourism and also often the best places are designed for foreign tourists so they are very expensive, the other factor is time, respondents mentioned that with their responsibilities they cannot afford to travel, especially because within their country can take several hours a trip. One person mentioned that they were not really interested, that they like where they live and that they have everything they need. And one-person mentioned that he already traveled even to different countries and now is only resting at home, sometimes made short trips nearby only. These same responses were reflected in the next question where they were asked what would motivate them to travel and the main response was that it would be a nice place with affordable prices.

Another topic discussed was the acceptance of tourism in their country, to which all responded that they would like there to be more tourism, because it would help their country and bring more economic income. Here they emphasized that they would like everyone to benefit and not only these big companies that were mentioned previously. It was also mentioned that the government needs to improve the infrastructure so that more tourists arrive and also that they should work on the image of the country since it is a country full of nature, but the world does not know it.

Finally, they were asked for suggestions or recommendations to obtain the support of the local community in a tourism project in the country, to which the answers were diverse but can be condensed in the participatory presence of the local community, they want to be taken into account in the projects so that they can identify how they can be affected and how they could be benefited by these projects, and something very important that they highlighted is communication, to be informed of a project that will be close.

As for the staff, it was possible to be in contact with 3 staff members and the information obtained from different conversations in different situations and moments can be grouped into three main focuses, reserve potential, reserve management and community participation. The three staff members come from different locations in the reserve, which allows us to obtain valuable information for the research.

Regarding the first theme, the reserve's potential, it was agreed that the reserve has potential, that there are several places within the reserve that are worth visiting and getting to know, they also mentioned that the natural component of the reserve could be of great value to tourists and highlighted that due to its size it offers a diversity of landscapes and different trails where tourism activities could be developed. However, they also consider accessibility to be a big problem because sometimes it can take a long time to get around and the roads are not the best. Another of the problems detected is that there is no promotion of the reserve at the moment, even at the local level, even though they know about the reserve, they do not consider it a tourist destination other than sometimes going to the Niari River. Also, one of the participants added that people who want to go only go because it is open and there is no entrance fee to generate income from visits. Only in certain parts of the reserve do the communities receive income for allowing people to set up their tents there and even offer food or products such as fruit.

Regarding the management of the reserve, they explained that on paper the law does talk about the management of the reserve and its conservation, but in reality it is not really applied. At the moment, the reserve belongs to the state and the state is in charge of its administration. One of the participants believes that the reserve has not been given the importance it deserves and that the necessary resources are not being allocated for its care and conservation. Another participant mentioned the problem that there should be more personnel for the size of the reserve. Another

mentioned that he believes that the reserve offers so much to the community and that it should be given more prominence.

Finally on the topic of community participation, they mentioned that sometimes there is not enough information for more people in the community to get involved. Specifically in the area of tourism, they believe that there would be people interested in participating since this would mean an economic income, and that there are people who already offer certain related services such as transportation, including the small boats used to go from one part of the river to another, as well as food, but it is not something that always happens, but it could be an option. One of the people involved believes that the main problem would be the language in case the tourists do not speak French.

Finally, we have the expert interviews, which were conducted at the national and international level, with a total of 6 interviews with people who work in the field of conservation of protected areas and have experience in the management of natural areas and work with communities. The semi-structured interviews were focused on understanding the perspective that the interviewees have about ecotourism in protected areas.

All of the interviewees agreed with allowing ecotourism activities in protected areas, but clarified that it is necessary to do so under certain parameters and guidelines in order to ensure the sustainability of the project over time. For example, E6 mentioned that first the protected area administration should be accepted by the community before proposing any ecotourism project. E2 mentioned that it is necessary to carry out a study of the real carrying capacity of a reserve in order to plan ecotourism based on this information. E3 mentioned that yes, but only if it is real ecotourism and not just for the sake of selling it that way. E4 added that it should be allowed as long as it complies with specific environmental regulations and always promotes sustainable conservation and education activities.

Regarding the contribution that ecotourism can make to conservation, there was agreement that it does contribute in different ways to conservation efforts, E1 mentioned that the ecotourism projects that his organization carries out have been more focused on local communities and that although it is not a great source of economic income, the main contribution is that it has helped to involve communities and reach more people with information about the conservation efforts of his organization, the main contribution is that it has helped to involve the communities and reach more people with information about the conservation efforts of his

organization, he mentioned that these ecotourism projects are a great mechanism for education and environmental awareness.

E2 also mentioned that the main benefit of ecotourism is the environmental education that reaches the local communities, as long as it is done in an environmentally sustainable way. E5 also mentioned that from his experience he has seen how ecotourism has taught the community the importance of ecosystem conservation, he even mentioned an example of which he was a participant and that before the local community did not like a species of birds because they attacked the crops but now the local communities are concerned about these birds, They are aware of the frequency in which they see them and they understood that if they attack the crops it is because their natural habitat was being lost and now these birds are their source of income because they focused on avi-tourism. They also created a lodge that managed to unite the three communities that live in the protected area in favor of conservation.

E4 mentioned that he has also seen that some tourists, after visiting a reserve and learning about the conservation work, have become donors and at the same time have helped to spread the word internationally about the conservation work. E6 also mentioned that it helps to involve the communities and generates income that can contribute to the development of these local communities.

E3 mentioned that it will depend a lot on the planning of the tourism activity and the objective of who manages it, since there have been several cases in which it is sold as ecotourism but does not really respect the fundamental pillar of benefiting the local communities, a true ecotourism should benefit mostly the local communities. E5 mentioned that they definitely benefit, he himself belongs to one of these local communities and has seen over the years that benefits have been generated, but emphasizes that these benefits are not immediately apparent and that it takes a long time and a lot of work to really establish, that the important thing is to be honest and communicative with the communities, to tell them that it is a project that may or may not take longer than expected.

E6 mentions that it certainly contributes when it is planned with a social focus as it should be, but here it is essential to communicate and to be empathetic with the community and ask if they would really be interested instead of coming to their community and trying to impose ecotourism as a solution for their development. Also consider that you must have contingency plans in case something happens like

COVID-19, and the community has put everything into tourism and is affected because they have no other source of income.

The key points that should be taken into account when planning the ecotourism activity were also discussed. He mentioned that all the necessary logistics should be taken into account, having reliable service providers, establishing the maximum number per activity, and determining what the objective of the activity will be. He also mentioned that it is important to know that at the beginning the income from the activity will not be large and that on the contrary at the beginning, as in any project, the investment is larger. E6 mentioned that the participation of the community is indispensable, as well as a territorial planning that allows identifying where the activity will be carried out. E2 mentioned that it is necessary to identify the permitted activities and under what conditions, as well as to have the carrying capacity, control and monitoring plans, as well as identification of the species of the place and how they would be affected, basically all the information in a management plan.

E5 mentioned that in their case it was essential to have a community board that participates in planning and decision making because they believe that it is the community that should maintain the project over time since the administration of the reserve can pass but the community will always be there. They as the administration serve as technical guides and with training, but in the end it is the community that really makes the project possible. E4 mentioned that the management plan, socialization with the community and adequate signage are basic issues in the planning of ecotourism activities. Generate a long-term commitment with the local community, take into account environmental impact studies, keep updated on sustainable tourism practices, maintain contact with stakeholders, inventory of tourist attractions, flora and fauna of the area and consider connection points near hospitals and health centers in case of accidents.

Another topic that was addressed was the advantages or opportunities presented by ecotourism in protected areas, here it was repeated in all cases that the main thing is that it represents a benefit for the local communities. E4 mentioned that it presents an opportunity to reach more people with the conservation message, it is possible to reach people who perhaps were not interested in conservation and after the visit they have a different mentality. Also mentioned as an opportunity is the access to various international funds for conservation and that ecotourism has been growing more and more in the preferences of tourists.

E1 mentioned that it provides a space for communication with local communities and that helps to get more support for conservation projects. E2 mentioned that it is an opportunity to change the dynamics of the local communities, from his experience, he mentioned projects in which the communities stopped hunting certain species and began to take care of them when they saw that there were tourists interested in seeing them. E4 mentioned that it is an opportunity to generate jobs, and helps to strengthen the identity of the communities through the protected area.

As for the negative side of disadvantages or threats, E3 mentions that many times it can be the lack of planning that ends up causing negative impacts. E5 mentions that sowing great expectations in the communities that will not be fulfilled is a threat because they will lose their worst ally. E6 mentions that one of the threats is that the regulations remain only on paper and are not adequately applied, as well as a tourism operation based on empiricism with people who have no knowledge of tourism is a threat that could sentence the project to failure. E1 mentioned that often the lack of support from the local communities can be a great threat since they can hinder the development of the project.

To conclude, basic recommendations were discussed and all the answers were summarized in involving the local community from the early stages of the project, having an updated management plan since this is what all the planning will be based on, considering that this is not a short-term project and therefore the results will not be visible at the beginning, identifying the main stakeholders and always working hand in hand with specialists in the field.

4.3 Documentary research.

Documentary research is a resource used to complement the results obtained in the previous stages of the investigation. Mainly to analyze how the tourism market is in this study area with the objective of understanding what strategies could be used when planning tourist activity in the *Tsoulou* reserve.

The most current data that could be recovered regarding annual tourist arrivals to the Republic of Congo are from the year 2022 published by the World Tourism Organization (Figure 17). Which shows France and Spain as the main countries sending tourists to the Republic of the Congo, followed by the USA Turkey, and Italy. However, what is interesting here is that, even when France has the first place in arrivals, USA is the country that expends more money per arrival in this country.

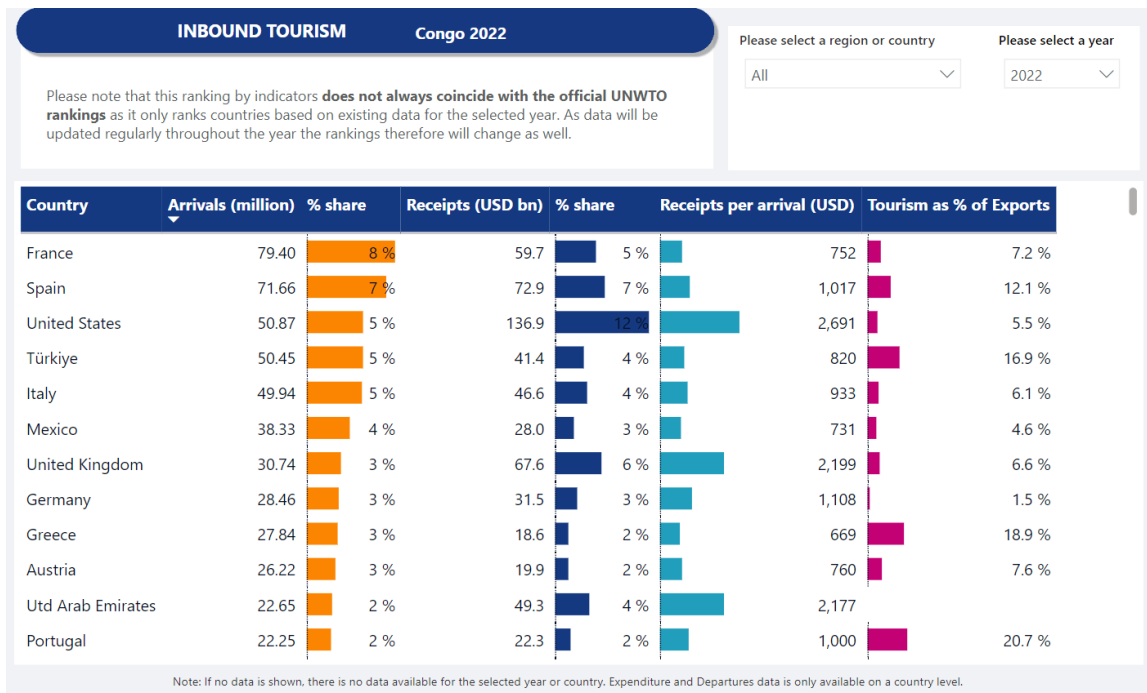


Figure 17: Inbound tourism Congo 2022. From UNWTO Tourism Data Dashboard (2024).

In terms of ecotourism, this country has already started to work in different natural areas, one of the most outstanding is the Odzala Kokoua National Park, one of the oldest parks in the Congo and is managed by African Parks, a non-profit organization that has been in charge of the rehabilitation and management of national parks in different countries, in total it manages 22 national parks and protected areas in a total of 12 countries in Africa. The Republic of Congo only manages Odzala Kokoua National Park since 2010 when it signed a 25-year agreement with the Republic of the Congo's Ministry of Forest Economy, Sustainable Development and Environment to protect this globally significant park. This national park has a total of 13.546km² and is part of Congo Basin, something important to highlight about the management of this reserve is that 96% of its permanent staff are Congolese and over 60% are from local communities in the area of the park (AP, 2024).

This national park also promotes ecotourism through Cam Imbalanga which has increased opportunities for local communities. It has also been concerned with promoting initiatives to improve education, health and infrastructure, reaching around 12k people around the reserve. This reserve serves as an example of how, through good management and planning, responsible ecotourism can be promoted that contributes to the conservation of the area but also benefits the local communities. However, it should be noted that this NGO has been in charge of the management of this reserve for 14 years, which means that it is a long-term work that has needed to

be constantly monitored and updated according to the needs of the case. It has also included the local community in the process and has created links with partners that have helped the sustainability of the project over time.

Tourism planning is the main basis that can influence whether or not the project will be successful in the long term. Drumm et al. (2002) in their publication "Ecotourism Development and Management" explain each step of this process, and mention that there are four basic requirements to elaborate an ecotourism management plan.

1. The protected area must have a management plan that explains the basic guidelines for the ecotourism management plan.
2. The area's personnel should be in agreement and committed to the project.
3. They should have a clear idea of the economic, technical and logistical resources.
4. The suitability of ecotourism in the protected area should be analysed.

Drumm et al. (2002) also mention necessary steps to consider in this process, and they are the following:

1. Understand what an ecotourism management plan is, its function, and how it is developed.
2. To carry out a planning for the conservation of the places and a preliminary evaluation of the same ones,
3. To carry out a complete diagnosis of the site,
4. Analysis of the data and elaboration of the plan.
5. Implementation of the plan,
6. Measurement of success (goals were met).

To carry out the tourism management plan, as mentioned before, the following is needed to follow the general plan management of the protected area and this one should follow regional and national regulations. In the study case of reserve *Tsoulou* is necessary to mention that all the matters related to wildlife conservation in Congo are responsibility of the Ministry of Forest, Economy and Environment. However, we need to mentioned other ministries that may be involved like, Ministry of Mining and Energy, Ministry for Planning and Economy, Ministry for Youth and Rural Development and Ministry of Tourism (IUCN, 1993).

Moreover, it is necessary to mention certain laws or codes that must be considered when developing a management plan, such as the following the Forest Code, Law No 003/91 that establishes supporting texts on environmental protection, Law No 9-2004 establishes the State-owned property code; Law No 10-2004 defining general principles for systems operating on either Private- or State-owned; lands Decree No 2002-435 that determines the duties, organization and operation of the National Center for Inventories and Management of Forest and Wildlife Resources; Decree No 2002-437 that determines forest management and conditions of use; Decree No 2002-438 that defines terms and conditions of distribution of area levy for development of administrative divisions; Decree No 2002-434 that defines organization and operation of forest fund; Decree No 2002-433; determines organization and operation of water and forest officers. Law No 37-2008 on Wildlife and Protected Areas makes that mentioned how the local communities need spaces to participate in the management of protected areas and have the possibility to carry out socio-economic activities and Order No 5279 that outlines the establishment of a Steering Committee on sustainable management of Congolese forests (MFESD, 2024 and Counsell,2018).

Once the prerequisites for the elaboration of the plan have been fulfilled, and the parameters under which the tourism activity will operate have been established, it is necessary to define the target audience and accordingly establish the necessary marketing strategies to reach the target group. These marketing strategies should be aligned with the objectives of the protected area, in order to define the image of the protected area that we want to promote through ecotourism.

5. Discussion

This chapter is intended to present the value of the results in achieving the objectives set out at the beginning of this research work. This is done through the interpretation of the results and the generation of information. This chapter aims to link the information obtained from the different stages of the research, the field study, the expert interviews and the documentary research.

From the results obtained in the field research it has been identified that the *Tsoulou* reserve can be of great tourist attraction and has tourist resources with potential to attract tourists. The six identified resources have their own characteristics and have their own potential at different levels. All of them can be considered in tourism

planning, however, each can be addressed to different target audiences due to different factors. For example, accessibility, or the difficulty they may present.

It is important to mention that, although the reserve itself is already a tourist resource that could be analyzed as such, due to its size and also to what exists around it, it was considered pertinent to make a more in-depth analysis of each resource within the reserve and even some resources that, although they are outside the reserve, contribute value in the market to the reserve because they are close or connected in some way.

An important thing to highlight from the field research is that it has not only identified the potential of the *Tsoulou* Reserve, but also the complications it presents when it comes to tourism planning, and here the one that comes up most often in the valuation of the tourist attractions is the problem of accessibility to these tourist resources. Due to the nature of the place, there are no roads or trails properly marked, several places cannot be accessed by car, and access by motorbike can present some challenges, for example the availability of staff who can provide this service, also the time it takes on these journeys, the type of roads, the vegetation that can hinder the passage. This makes these tourist resources not suitable for everyone. This is not necessarily a negative thing, as this could be a filter to avoid an excess of tourists in the place that would trigger several negative environmental impacts for the place, but it is necessary to consider this in order to work on finding a middle ground.

Within the same topic, the logistical problem that the conditions of the place represent at the time of elaborating the tourist planning arises, because these conditions can influence the fact that the times considered for the planning of a certain activity cannot be fulfilled and this can lead to problems with other planned activities. For this reason, the time allocated for contingencies should have a considerable range. Not only for the visit activity but for all the extras that may be considered, e.g. if the visit takes a considerable amount of time, it is important to plan time for breaks and food.

In addition to the lack of equipment and infrastructure in the area to provide tourism services, another important component is signage. Signs are indispensable when planning tourism in a protected area because they provide the necessary information to the public about the reserve, distance, areas where it is and is not permitted to be, as well as to identify where the communities are located, where the main attractions are, and information about them. It will also indicate where the protected area begins and ends. It is not recommended to plan visits without basic signs in the area.

In terms of conversations with the local community it is necessary to emphasize that the local community does not have this culture of travel or cannot afford it due to the high costs, however they do seek entertainment activities for weekends with family or friends. The community is open to receive tourists, this may be due to not being a popular destination, they have not suffered an overload of tourists as in several other popular destinations, nor has there been evidence of gentrification or any other social problem caused by tourism which is good but should be considered for planning to avoid causing such negative impacts on the community so that the project can be maintained over time.

Regarding to the staff, what is worth mentioning is that they also identify a potential in the reserve not only at the level of offering a product but also involving local people to offer different services such as lodging and food. They believe that the community would be willing to participate but that the problem is often a lack of information or opportunities. It is important to consider that one of the biggest limitations that the staff can present for the tourist activity is the language barrier, although it is not a priority, it should be considered in the planning.

As for the interviews with experts, these have allowed us to have a clearer idea of what is behind the tourism operation, the whole planning process, factors to be taken into account and so on. The most interesting thing is that despite the fact that the interviewees work in different projects, locations and even different countries, they share many aspects of their opinion about ecotourism in protected areas.

The most remarkable thing has been that they all consider the center of the planning to be the local communities, all have highlighted this part, as well as they have mentioned that it is necessary that if it is ecotourism, as well as the management plans as a fundamental tool in the planning of tourism and the participation of stakeholders throughout the process.

The documentary research obtained valuable information about the potential target public as well as the project in Odzala Kokoua National Park that can serve as an example of tourism and conservation projects in the Republic of Congo, this project indicates that it is possible to develop ecotourism in a protected area of this country. On the other hand, it was possible to gather information about the planning of tourism in protected areas and the laws that should be considered in the Republic of Congo.

With the information obtained, a simplified SWOT of the ecotourism project in the area was developed (Figure 18). This SWOT will help to develop strategies that will enhance the strengths, take advantage of the opportunities, correct the weaknesses and mitigate the threats. As for the strengths, it is necessary to consider them mainly

to elaborate the marketing plan, these strengths are the ones we want our target public to see. But before, it is necessary to work on the weaknesses, the main strategy is the elaboration of the management plan to correct them. For this we will need economic resources to finance everything that the reserve improvement plan entails and here we can use the opportunities, identify NGO's and present the project to them to receive funding. For this it is also necessary to rely on similar projects and identify NGO's that are already supporting similar projects, there are also large NGOs internationally recognized for their support for conservation such as WWF, WSC, Rainforest Trust, Rewild and others. In terms of threats, the best strategy is to work with local communities and the corresponding authorities. Work on education, awareness and community projects.

STRENGTHS	WEAKNESSES
Size Uniqueness Biodiversity Landscapes Seasonality Touristic resources	Infraestructure Trained staff Economic resources Management Operational challenges Signage
OPPORTUNITIES	THREATS
Funding from International NGOs Partnerships with travel agencies Partnership with universities	Pollution Deforestation Wildfires Local community rejection

Figure 18: Simplified SWOT for *Tsoulou* reserve based on information obtained during the field research.


		Interest 	
		Keep satisfied	Key role
Power 	Local authorities	Local Communities Staff	
	Minimal effort	Keep informed	
		Communities far of the reserve	NGO's Travel agencies

Figure 19: Power/Interest Matrix based on Mendelow (1991) with data collected in the field.

There was also identified the skate holders (Figure 19) using the Power/Interest Matrix based on Mendelow (1991). As was discussed the local communities are the

key role for an ecotourism project in the field due to the high level of power that may have and their interest. The main strategy with them is to include since the first phases of the project. Regarding the local authorities represent high power, however, not always have high interest. It is necessary to follow the rules or process presented by the authorities in order to get their interest in the project. Regarding the local NGO;s and travel agencies they may not have much power in the development of the project. However, they may be great partners due their interest and may bring benefits. For this reason, it is advisable to maintain constant communication in order to strengthen the relationship.

Is possible to develop ecotourism in this protected area? It is possible, the reserve has the potential to develop it, but not in the immediate future because it is still necessary to work on other areas of the reserve's management before developing tourism activities. However, there are several steps in tourism planning that can be taken, such as the tourism inventory, updated mapping and signage, and in general, an updated annex plan. Begin to involve the local community in the planning process, hold working groups to hear their opinions and concerns about the project.

Remember that the project may take time to move forward, and it is necessary to raise the necessary funds to finance it. Identify potential partners that could support the initial investment of the project and present it. It is also important to advance in the training of the personnel, you can start with short tours with local guides, for which it is necessary to train them in guiding techniques for this activity. Also use the tourist inventory to start with the tourist promotion of the place.

When talking about a revenue estimate, it cannot be clearly defined at the moment. To begin with, the reserve belongs to the state and there is no entrance fee, and with the communities living within the reserve, it would not be possible to impose an entrance fee. However, the income would come from the community lodging service or from the camping space, which is estimated to vary between 5000 and 10000 CFA. Other income would be from the guide service, transport service and the complete tour.

6. Conclusions

After analyzing all the information obtained from the literature review, field research, interviews and documentary research, we can conclude that ecotourism is an alternative for sustainable development in the *Tsoulou* Reserve. Although this will not be seen in the immediate future, although the reserve has the potential to develop tourism activities and the market segment seeking ecotourism has grown in recent years, the reserve still needs to work on several prerequisites to begin tourism operations.

With the results obtained from the field research, we were able to characterize the *Tsoulou* Reserve and all of its potential as an ecotourism product. Using the information charts, it was possible to identify and characterize six main attractions, which, although not all are necessarily located within the reserve, together they form a great ecotourism product and thanks to the multi-criteria evaluation matrices it was possible to weight and rank these attractions. This information will be useful for tourism planning and marketing strategies. It is also possible to use the example of other similar tourist destinations in the area, such as Odzala Kokoua National Park, which has demonstrated that it is possible to carry out ecotourism activities in protected areas by working together with the community. As well as other similar cases in other parts of the world.

At the moment of realizing the ecotourism management plan it will be necessary to elaborate a detailed market study for the elaboration of the best marketing strategies, however thanks to the information obtained from the statistics of the UNTWO (Figure 17) it was already identified that the potential markets would be the French market and the USA. France is where most of the tourists coming to the Republic of Congo come from, but the USA is the country where the tourists who spend the most per stay in the Republic of Congo come from. However, it is also necessary to count on the local tourism, which although it would not leave the greatest income, it is necessary to capture their interest in order to get their support both in tourism and conservation activities. For a matter of economic capacity, it should be directed to the larger cities, *Brazaville* and *Point Noire* for long stays, but to the communities near the reserve for day visits. A very important local market would be the schools in the area since not only tourism is promoted but also environmental education.

It is also necessary to consider that tourists would arrive at the two international airports of the country, the Brazaville airport which is approximately 6 hours away from the *Tsoulou* Reserve, and the Point Noire airport which is approximately 4h30 hours away. The seasonality is important, and here something good is that the climate is quite stable all year, in general the whole year is hot, however there is the dry season and the rainy season, but both can be beneficial because the dry season helps to have better roads, facilitates hiking and hikings activities, but the rainy season facilitates water activities such as kayaking for example.

Marketing strategies should be linked to the objectives of the reserve, to share the image that you want to convey to potential tourists, to offer not only the landscape but also an experience that teaches something new to the tourist, that after the visit has learned more about the importance of the place, the biodiversity and the importance of its conservation. In today's reality digital marketing is the one that has grown the most, now tourists are becoming more and more informed before making a trip so a website is essential for tourists to have firsthand information, as well as social networks that have become increasingly important in this issue, particularly instagram and tiktok with their short videos that attract the attention of tourists and motivates them to find out more about the destination.

Unfortunately, as mentioned before, although the reserve has the potential for tourism development and would be a great alternative for local development, it is not yet ready for tourism development in the immediate future. This is because its administration is not really developed, and there is no official management plan, which is the basis for even thinking about tourism as an option. To this must be added the complexity of its operation, lack of infrastructure, signage, staff and equipment. Also, the work with the community, as mentioned by the experts interviewed, is the key piece, if the community is not involved no project can be successful.

7.Reccomendations

After conducting the research, processing and analyzing all the data obtained, we can make some recommendations for planning ecotourism in the *Tsoulou* Reserve and try to make it a sustainable activity over time.

First, it is necessary to understand that it is not a process with immediate results, as the experts mentioned, and it is necessary to be honest with the local communities so that they do not create very high expectations because they may end up disappointed if they do not see income from the beginning, which could generate a rejection of the project and those who lead it, as well as feel that they have been somewhat disappointed and this would seriously affect the project and even the management of the protected area itself.

Once this is clear, it is recommended that a general management plan for the reserve and an ecotourism management plan for the reserve be developed, involving all the stakeholders that are considered necessary, such as local communities or their representatives, authorities, scientists, specialists, staff, and even donors could be considered.

Within this planning, several issues are involved, such as biodiversity inventories, very important to know what species of plants and animals are in the place, territorial planning of the place, an updated mapping, identification of buffer zones, existing communities. Strategies are also proposed to achieve the proposed objectives and another important phase for the success of the project is to propose the indicators that will be taken into account for the constant monitoring and evaluation to update the strategies.

Something that should be considered here is the constant training of the staff, if you plan to offer tourist activities, it is necessary that the staff has training in basic topics such as guiding techniques, first aid and customer service. In the case of providing services such as accommodation and food in the future, the staff should also be trained in these topics. And it is not a one-time training, a budget should be allocated for regular trainings.

Regarding the implementation of the ecotourism project, it is recommended to start with volunteer tourism, since it can be simpler to operate, needs less investment and benefits can be obtained, perhaps not in economic terms but in the form of services that volunteers can provide. For example, volunteer geographers who can map the site, volunteer biologists who can work on species identification, volunteers who can

offer training to staff, elaborate signage, or photographers who can help put together the portfolio for the tourism offer, designers, and many more. A pilot project could be carried out in universities in France because of the language facility.

However, the fact that they are volunteers should not be taken lightly, they are people who contribute financially, but also with their time and ideas. So you should plan carefully, be clear about the work itinerary that the volunteer will do, define the working hours, conditions and so on to make the most of the resources. Also make sure that the volunteers take away a good experience that they can share and invite more people to support in one way or another.

Finally, it is recommended not to take the tourist activity lightly, not to do it from a mere empirical knowledge, remembering that knowing how to be a tourist does not mean knowing how to operate tourism. Without adequate and professional planning, tourism or ecotourism activity could have negative effects on the site, and affect not only the host communities, but also negatively impact conservation efforts. in terms of conservation.

8. References

- Abraham, M. & Lodish, L. (1990) "Getting the most out of advertising and promotion", Harvard Business Review.
- Amend, St.; Giraldo, A.; Oltremari, J.; Sanchez, R.; Valarezo, V.; Yerena, E. (2002). *Management Plans - Concepts and Proposals*. In: National Parks and Environmental Conservation, No:10, Panama.
- AP, African Parks (2024) *Odzala -Kokoua National Park*. Taken from: <https://www.africanparks.org/the-parks/odzala-kokoua> on the 14.02.2024
- Barney, J. B. & Hesterly, W. S. (2006). *Strategic Management and Competitive Advantage*, USA: Prentice Hall.
- Blanco,-R. -y -Curiel,-J. -(Coord.)-(2016). *Ecoturismo: hacia una gestión sostenible moderna*. Editorial Síntesis.
- Bote, V. (2002). *Planificación económica del turismo. De una estrategia masiva a una artesanal*. México: Trillas
- Boyd, J; Banzhaf, J. (2007). *What are ecosystem services? The need for standardized environmental accounting units*. *Ecological Economics*; 63: 616-626.
- Brown, K., Turner, R.K., Hameed, H., Bateman, I. (1997). *Environmental Carrying Capacity and Tourism Development in the Maldives and Nepal*. *Environmental Conservation*, 24 (4): 316-325.
- Bultjens, J., Ratnayake, I., Gnanapala, A., and Aslam, M. (2005). *Tourism and its Implications for Management in Ruhuna National Park (Yala), Sri Lanka*. *Tourism Management*, 26 (5), 733-742.
- Chesworth, N. (1995). *Ecotourism Seminar paper* delivered in the Institute of Environmental Studies and Management. UPLB. College, Laguna
- Cifuentes, M., A. Izurieta and H. de Faría (2000). *Measuring the effectiveness of protected area management*. WWF, GHZ, UICN. Turrialba-Costa Rica.
- Clarkson, M. 1995. *A stakeholder framework for analyzing and evaluating corporate social performance*, *Academy of Management Review*.
- Cooper, C., Fletcher, J. Gilbert, D. and Wanhill, S. (1993): *Tourism: Principles and Practice*. Trans-Atlantic Publications, 311 Bainbridge Street, Philadelphia.
- Counsell, S. (2018) : *The Congo's Nouabalé-Ndoki National Park: How Indigenous Lands Became an Emblem of Rooseveltian "Wilderness Conservation" in Africa*. *Cornered by Protected Areas*. Taken from <https://corneredbypas.com/congo> on the 14.02.2024
- Crompton, J.L. (1983): *The tourist experience: Satisfaction and dissatisfaction*. *Journal of Physical Education, Recreation and Dance*.

- Dologlou, N. (2016). *Ecotourism in Protected Areas, A Literature Review*,1–23. National Technical University, Metsovion Interdisciplinary Research Centre. Athens: EcoClub.
- Donohoe, H. & Needham, R. (2008). *Internet-based Ecotourism Marketing: Evaluating Canadian Sensitivity to Ecotourism Tenets*. *Journal of Ecotourism*. 7. 15-43. 10.2167/joe185.0.
- DOPA (Digital Observatory for Protected Areas) Explorer (2024): *Reserve Tsoulou*
- Drumm and Moore (2002): *Ecotourism Development – A Manual Series for Conservation Planners and Managers*, Volume 1: An Introduction to Ecotourism Planning © 2002 por The Nature Conservancy, Arlington, Virginia, USA.
- Dudley, N. (Editor) (2008). *Guidelines for Applying Protected Area Management Categories*. Gland, Switzerland:IUCN. x + 86pp.
- Eagles, P. (2002). *Trends in park tourism: economics, finance and management*. *Journal of Sustainable Tourism*, 10(2), 132-153.
- Eagles, P., McCool, S. and Haynes, C. (2002). *Sustainable Tourism in Protected Areas: Guidelines for Planning and Management*. IUCN Gland, Switzerland and Cambridge, UK.
- Fatanti and Suyadnya, (2015) *Beyond user gaze: How Instagram creates tourism destination brand?* *Procedia - Social and Behavioral Sciences*, 211
- Franco, S., Osorio, M., Nava-Bernal, G. and García, H. (2009). *Evaluación multicriterio de los recursos turísticos: Parque Nacional Nevado de Toluca - México*. *Estudios y perspectivas en turismo*. 18. 208-226.
- Freeman, R.E. & Reed, D.L. 1983. 'Stockholders and stakeholders: A new perspective on corporate governance', *California Management Review*.
- Gardner, J.R., Rachlin, R.. And Sweeny, A. (1986) *Handbook of strategic planning*. New York: John Wiley and Sons, Inc.
- Global Sustainable Tourism Council (Gstc), Responsible Tourism Institute (rti)-y Basque Tour (2015). *Carta mundial de turismo sostenible +20*.-Gstc, rti-y Basque-Tour.
- Gürel, Emet. (2017). *SWOT ANALYSIS: A THEORETICAL REVIEW*. *Journal of International Social Research*. 10. 994-1006. 10.17719/jisr.2017.1832.
- GYAN P. NYAUPANE (2007) *Ecotourism versus Nature-based Tourism: Do Tourists Really Know the Difference?* *Anatolia*, 18:1, 161-165, DOI: [10.1080/13032917.2007.9687044](https://doi.org/10.1080/13032917.2007.9687044)
- Hockings, M., Leverington, F. et Cook, C. (2020). *Protected area management effectiveness*. In Worboys, G. L., Lockwood, M., Kothari, A., Feary, S. et Pulsford, I.

(ed.) *Gouvernance et gestion des aires protégées*. Canberra: ANU Press, doi.org/10.22459/GGAP.28.

Honey, M. (2008). *Ecotourism and Sustainable Development: Who Owns Paradise?* Island Press.

Huizar, M. & Villanueva R. (2021). *Formulación y evaluación El inventario de recursos turísticos*. Universidad de Guadalajara. Centro Universitario de la Costa. Mexico

IES, International Ecotourism Society (2019,). *What Is Ecotourism* - in the International Ecotourism Society. Consulted on August 02nd, 2023 in: <https://ecotourism.org/what-is-ecotourism/>.

ILO (International Labour Organization) (2013): *Toolkit on poverty reduction through tourism*, International Labour Office.2013 ed Geneva: ILO, 2013.

IUCN / UNEP. (1990). *Management of Protected Areas in the Tropics*. IUCN, Gland, Switzerland. 315 p.

IUCN (1993): *Environmental Synopsis: Congo*. IUCN. Gland, Switzerland.

Jiang, J. (2008). *Evaluation of The Potential of Ecotourism to Contribute to Local Sustainable Development. A Case Study of Tengtou Village, China*. Philosophy in Development Studies at Massey University, master's degree, New Zealand, p. 175.

Juraev Abror Turobovich, Makhmudova Nodira Uktamovna, & Juraeva Zilola Turobovna (2020). *Marketing aspects of ecotourism development*. Economics, (1 (44)), 25-27. Faculty of economy and tourism, Bukhara state university, Bukhara, republic of Uzbekistan

Kiper, T. (2013). *Role of Ecotourism in Sustainable Development*. InTech. Doi: 10.5772/55749.

Koning, M., & Avramoski, O. (2022). The Importance of Partnerships for Effective Protected Area Management. Intech Open.

Kothari, A. (2008). *Protected areas and people: the future of the past*. Parks 17 (https://www.iucn.org/sites/dev/files/import/downloads/kothari_article_parks_17_2.pdf)

Kumble (2011) *Impacts of ecotourism upon cultural and natural resources: an annotated bibliography*. Journal of Landscape Studies 4

Lemelin, (2006): *The gawk, the glance, and the gaze: Ocular consumption and polar bear tourism in Churchill, Manitoba, Canada*. Current Issues in Tourism, 9 (6).

Lemus, Mgtr & Diaz, Guillermo (2022). *Tourism: Recovery and new trends post-COVID-19*. 2. 48-56.

- Leung, Yu-Fai, Spenceley, Anna, Hvenegaard, Glen y Buckley, Ralf (eds.) (2019). *Gestión del turismo y de los visitantes en áreas protegidas: directrices para la sostenibilidad. Serie Directrices sobre Buenas Prácticas en Áreas Protegidas no. 27*, Gland, Suiza: UICN. xii + 120 pp.t
- Lockwood, M., G. L. Worboys, and A. Kothari. (2012). *Managing protected areas: a global guide*. Earthscan, London, UK. [http:// dx.doi.org/10.4324/9781849771900](http://dx.doi.org/10.4324/9781849771900)
- MacKinnon, J. (1996). *Managing protected areas in the Tropics*. Natraj Publishers.
- Mannetti, L. M., T. Göttert, U. Zeller, and K. J. Esler. 2019. *Identifying and categorizing stakeholders for protected area expansion around a national park in Namibia*. *Ecology and Society* 24(2):5. <https://doi.org/10.5751/ES-10790-240205>
- Mayers, J. (2005). Stakeholder power analysis. 10.13140/RG.2.2.22745.57446.
- MEA (Millennium Ecosystem Assessment) (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington D.C.
- Mehmetoglu, M. (2007): *Nature-based tourism: A contrast to everyday life*. *Journal of Ecotourism*, 6 (2) (2007)
- Mendelow, A. L. (1991) *Environmental Scanning: The Impact of the Stakeholder Concept*. Proceedings From the Second International Conference on Information Systems 407-418. Cambridge, MA.
- Metin, Taki. (2019). *Nature-Based Tourism, Nature Based Tourism Destinations' Attributes, And Nature Based Tourists' Motivations*. In book: *Travel Motivations: A Systematic Analysis of Travel Motivations in Different Tourism Context* (pp.31) Chapter: 7 Publisher: Lambert Academic Publishing
- MFESD, The Ministry of Forestry Economy and Sustainable Development (2024): *The legal framework for forest management in Congo*. Republic of Congo. Taken from: <https://economie-forestiere.gouv.cg/fr/menu-haut/legislations/#c173> on the 14.02.2024
- Michalkó ,G.Irimiás, A., Timothy, D. (2015) *Disappointment in tourism: Perspectives on tourism destination management*. *Tourism Management Perspectives*, 16 (2015)
- Mitchell, R., Agle, B. & Wood, D. 1997. ' *Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts*', *Academy of Management Review*.
- Molina-Murillo, S., Hernández, M., & Shreeve, K. (2016). *Understanding the link between benefits from protected areas and its relationship with surrounding communities: An exploration in Costa Rica*. *Parks Journal*, 22(1):77-86. <http://dx.doi.org/10.2305/>

Moore SA, Polley A. 2007. *Defining indicators and standards for tourism impacts in protected areas: Cape Range National Park, Australia*. Environmental Management (2007) 39:291-300. DOI: 10.1007/s00267-005-0191-5

Naidoo, R. Gerkey, D. Hole, D. Pfaff, A. Ellis, A. Golden, C., Herrera, D., Johnson, K., Mulligan, M., Ricketts, T.H., and Fisher, B. (2019.) "Evaluating the impacts of protected areas on human well-being across the developing world" Science Advances. 5(4). pp. 1-4. <https://advances.sciencemag.org/content/5/4/eaav3006>.

Naughton-Treves, L., Holland, M. & Brandon, K. (2005). *The Role of Protected Areas in Conserving Biodiversity and Sustaining Local Livelihoods*. Oct Annu. Rev. Environ. Resour. 17. 219-52. 10.1146/annurev.energy.30.050504.164507.

Newsome, D. and Hughes, M. (2017) *Jurassic World as a contemporary wildlife tourism theme park allegory*. Current Issues in Tourism, 20 (13)

Olsen, W. (2012). *Data collection: Key debates and methods in social research*.(Vol. 1): Sage

Ospina Moreno, M., Chamorro Ruiz, S., Anaya García, C., Echeverri Ramírez, P., Atuesta, C., Zambrano, H., Abud, M., Herrera, C., Ciontescu, N., Guevara, O., Zárrate, D. and Barrero, A. (2020). *Guide for management planning in Sinap Colombia protected areas*. 159 pp. Cali - Colombia

Patterson, C. (2002). *The Business of Ecotourism: The Complete Guide for Nature and Culture-Based Tourism Operations*, Rhineland, Wis.: Explorer's Guide Publishing Second Edition [G156.5.E26 P37/1997].

Reynolds and Braithwaite (2001): *Towards a conceptual framework for wildlife tourism Tourism Management*, 22 (1) (2001), pp. 31-42

Rozzi,-R., -Massardo,-F., -Cruz,-F., -Grenier,-C., -Muñoz, -A., -Müller,-E. -y-Elbers,-J. -(2010).-Galápagos-and- Cape-Horn:-Ecotourism-or- greenwashing-in- two- iconic-Latin-American-archipelagos?Envi-ronmental Philosophy,-7(2), -1-32.

Seeler, S., Lück, M. Schänzel, H. (2019): *Exploring the drivers behind experience accumulation – the role of secondary experiences consumed through the eyes of social media influencers*.Journal of Hospitality and Tourism Management, 41.

SINAC. (2016.) *Guía para el diseño y formulación del Plan General de Manejo de las Áreas Silvestres Protegidas de Costa Rica*. (2nd ed.). San José-Costa Rica. 55 pp.

Stynes, D. J. (1997). *Economic Impacts of Tourism: A Handbook for Tourism Professionals*, Illinois Bureau of Tourism, Illinois Department of Commerce and Community Affairs, Prepared by the Tourism Research Laboratory at the University of Illinois at Urbana-Champaign

Taherdoost, Hamed. (2021). *Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects*.

TIES (n.d): *The International Ecotourism Society: Our Story*.
<https://ecotourism.org/our-story/>

Torres, S. y Muñoz, A. (2022). *La gestión sostenible aplicada al sector hotelero en Galápagos*. Turismo y Sociedad, XXXI, 177-197. DOI: <https://doi.org/10.18601/01207555.n31.10>

UNWTO (2022): African tourism united to transform the sector for growth and opportunity. UNWTO : <https://www.unwto.org/news/african-tourism-united-to-transform-sector-for-growth-and-opportunity>

Vásquez, K. L. V., & Gutiérrez, C. M. 2016. *Hotel Finca Campestre Rosa Blanca: Ejemplo de responsabilidad social empresarial en Costa Rica*. Relaciones Internacionales, 89(1), 95-121. <https://doi.org/10.15359/ri.89-1.5>

Wall, G. (1997). *Is Ecotourism Sustainable?* Environmental Management, 21(4): 483-491.

Wang, D., Chan, H. and Pan, S. (2015): *The impacts of mass media on organic destination image: A case study of Singapore*. Asia Pacific Journal of Tourism Research, 20 (8)

Wheeller, B. (1992). *Is progressive tourism appropriate?* Tourism Management, 13(1), 104-105.

Whelan, T., (ed) 1991. *Nature Tourism, Managing for the Environment*. Island Press, Washington DC.

White, D. (1993). *Tourism as economic development for native people living in the shadow of a protected area: A North American case study*. Society & Natural Resources, 6(4), 339-345. <https://doi.org/10.1080/08941929309380832>

9. Appendices

9.1 Personal Experience

My experience working in ecotourism, conservation and research comes from my bachelor's degree, I studied Ecotourism Engineering in my country and while I was studying, I started working at the beginning of 2018 for almost 4 years with the Jocotoco conservation foundation team, to be more precise in Jocotours which is its commercial arm destined to ecotourism management. This NGO manages 16 private natural areas in Ecuador, including Galapagos, one of them with a scientific station and 5 of them with a lodge. My job was in everything related to tourism, from sales and operations of day visits or tours in all reserves, to assisting in the management of the hotels and all its operation, as well as making reports, budgets and management of staff in general. All this with the challenging logistics of being in protected areas taught me a lot during my time with the team.

I also had the opportunity to do my undergraduate thesis in Galapagos, so I had the opportunity to spend time in this wonderful place and learn more about the importance of conservation and the threats that tourism can pose to such a fragile ecosystem if not properly planned.

9.2 Niari River (Credits: author, 2023)



9.3 Blue river (Credit: Author, 2023)



9.4 Kayak in Nirari River (Credit: author, 2023)

