

ROLE OF ECOTOURISM IN PRESERVING BIODIVERSITY: CASE STUDY OF PROTECTED AREA

K.K.C.V. Jayaweera

Research Scholar, Department of Tourism Management, Kennedy University

Enroll No.: KUSLS20220143135

Abstract

This study explores the establishment and management of Protected Private Areas (PPAs) in the Los Ríos region of Chile, focusing on their social, economic, and environmental impacts. The creation of PPAs, such as Huilo Huilo, Oncol Park, and RCV, was driven by national biodiversity conservation goals and the desire to create sustainable economic opportunities, primarily through ecotourism [1]. While PPAs have brought significant benefits, including job creation and infrastructure development, the distribution of these benefits has been uneven, often favoring a limited number of landowners. The shift from timber-based economies to ecotourism has been a positive step toward sustainable development but has faced challenges such as seasonality, reliance on single landowners, and financial inequality. The study highlights the transformation of community attitudes toward nature, especially among youth, fostering respect for the environment and promoting sustainable practices. However, tensions have emerged due to restrictions on traditional resource use, like timber and grazing land [2]. These challenges underscore the need for better communication, participatory decision-making, and alternative livelihoods to balance conservation with community development. The study concludes that further investment in local capacity-building, equitable distribution of economic benefits, and stronger collaboration among stakeholders are essential for the long-term success of PPAs and their impact on rural communities.

Keywords: Protected Private Areas (PPAs), biodiversity conservation, ecotourism, community development, sustainable livelihoods.

1. Introduction

The establishment and management of Protected Private Areas (PPAs) in the Los Ríos region of Chile present a compelling model for balancing biodiversity conservation with sustainable economic development [3]. In recent years, areas such as Huilo Huilo, Oncol Park, and RCV have been designated as PPAs, driven by both national goals for biodiversity preservation and the aspiration to develop new economic opportunities, particularly through ecotourism. These initiatives aim to protect critical ecosystems while fostering sustainable livelihoods for local communities. However, the benefits of these PPAs, including job creation and infrastructure improvements, have not been evenly distributed, with certain landowners benefiting more than others. The shift from traditional timber-based economies to ecotourism has shown promise in promoting sustainable development, though challenges remain, such as seasonality in ecotourism, dependency on a few landowners, and unequal financial distribution [4]. The study also highlights a positive shift in community attitudes toward nature, particularly among younger generations, who have developed a greater respect for environmental conservation. Nevertheless, tensions have arisen as restrictions on resource access, like timber and grazing land,

affect traditional livelihoods. These issues emphasize the need for enhanced communication, inclusive decision-making, and alternative livelihood strategies to achieve a harmonious balance between conservation efforts and community well-being.

2. Methodology

The methodology of this study involved qualitative research using semi-structured interviews with key stakeholders involved in the establishment and management of Protected Private Areas (PPAs) in the Los Ríos region of Chile. Data were gathered from a variety of informants, including government officials, reserve administrators, community leaders, and members of non-governmental organizations (NGOs), as outlined in Table 1 [5]. The interviews focused on understanding the motivations behind the creation of PPAs, community interactions, economic opportunities, and impacts on local livelihoods. A total of 30 interviews were conducted, with informants representing a diverse range of perspectives, from local communities near the reserves to national and international conservation organizations. These interviews were complemented by document analysis, including policy reports, regional development plans, and published materials from key organizations such as The Nature Conservancy (TNC) and WWF. Thematic analysis was employed to identify common themes and patterns across the data, with a particular focus on the social, economic, and environmental impacts of PPAs on local communities. This approach allowed for the identification of key motivations for PPA creation, challenges faced by communities, and the extent of stakeholder involvement in PPA conservation efforts [6]. The analysis also explored power dynamics, community empowerment, and the tensions that arose from restrictions on access to natural resources. The methodology emphasized an in-depth, context-specific understanding of PPA-community interactions, enabling rich, nuanced insights into the local impacts of conservation efforts.

3. Limitation

- The study relied on qualitative research through semi-structured interviews, which may limit the generalizability of the findings due to the subjective nature of the data.
- A total of 30 interviews were conducted, potentially limiting the diversity of perspectives due to the small sample size.
- The research primarily focused on the Los Ríos region of Chile, which may not reflect the broader context or be applicable to other regions with different socio-political conditions.
- Thematic analysis was used, which is subject to the researcher's interpretation, potentially introducing bias in identifying and categorizing themes.

4. Result & Discussion

Motivations for Pursuing PPAs and Community Interactions: Our interviews with Chilean government officials indicated that legislators were aware of the role of Protected Private Areas (PPAs), viewing them as a tool to address the country's biodiversity gaps and create new development opportunities for rural communities (as summarized by MIN-001 and MIN-002) [7]. Respondents highlighted that while Article 35 of the National Environmental Framework Law (1994) acknowledges PPAs, the government does not currently regulate them

or offer tax incentives to encourage their establishment. Some PPAs, particularly large-scale ones, aim to align global and national sustainability and biodiversity conservation objectives, with a focus on ecotourism development. A case in point is the regional government of Los Ríos, which developed the Regional Tourism Policy to support sustainable development through both public and PPA-driven tourism initiatives. This strategy is echoed by the Sistema Regional de Áreas Protegidas (SIRAP), which states on its website, "local development and conservation go hand in hand in the region of Los Ríos."The regional policy, financially backed by the Fund for Regional Development (FRD), has promoted social participation and community development, based on the assumption that local residents living near protected areas often contribute to their degradation.

Table 1 Sources of results from informants.

InformantID	Qualifying Attribute
MIN-001	SIRAP tourism development official
MIN-002	Protected areas official with the Ministry of the Environment
Oncol-001	Lead reserve administrator
Oncol-002	Community relations specialist
TNC-001	Forest engineer
TNC-002	RCV coordinator
TNC-003	Park ranger
TNC-004	Community relations specialist
HH-001	Lead reserve administrator
HH-002	Community relations specialist
NEL-001	Former teacher; tourism business owner
NEL-003	Former community president
NEL-04/M1	Former timber worker; guide business owner
NEL-005	Owner of lodging and food sales business
NEL-006	President of water committee
NEL-007	Former HH employee; relatives work at HH
NEL-008	Tour guide; spouse is a teacher
NEL-010	HH hotel maid
NEL-011	Tourism business owner
NEL-013	Religious figurehead
PF-001-W1 and W2	Citizens with family who were evicted or mistreated
PF-002	School director
PF-003	Former timber employee; community association president
PF-005	Former HH employee
PF-006	Municipal delegate
PF-007	Artisan; Former HH employee

PF-008	Observed peculiar timber operations at HH
CH-002	Community elder
CH-003	Cabaña and restaurant owner
CH-004	Community tourism officer
CH-006	Artisan and chef
CH-008	RCV guide
CH-009	Cabaña owner
Huape-002	President
Huape-003	Former corporate logger; spouse owns restaurant
Huape-007	Artisan; Cabaña owner
Huape-008	Fisherman's union leader
Huape-009	TNC logger
Huiro-001	Former corporate logger; TNC ranger (preferred resident voice)
Cad-002	Stakeholder in livestock remediation project
Bon-001	President
Bon-004	Fisherman/Livestock owner
Pellin-001	Former Araucó logger; life-long resident
Pellin-002	President
Minas-001	President; Oncol ranger
Pilol-002	Collaborated with Oncol on project proposal; Spouse is Oncol employee
NGO-001	Executive for Chilean PPA network

Increased collaboration with a variety of organizations and stakeholders, including the Association of Conservation Initiatives on Private and Indigenous Lands (ASI Conserva Chile), Chilean universities (e.g., Universidad Austral de Chile, Universidad de Chile), government agencies (e.g., Ministerio del Trabajo y Previsión Social, Corporación Nacional Forestal), and global conservation and development actors (e.g., United Nations Development Program [UNDP]), has significantly influenced PPA conservation and development efforts. It has also shaped internal discussions about the "public politics" of PPA-community interactions (Oncol-002). The Nature Conservancy (TNC) maintained more comprehensive documentation of stakeholder involvement compared to Oncol Park and Huilo Huilo. External partners have provided essential support and funding to help local communities focus on ecotourism, thereby mitigating the impact of the reserve's establishment and promoting "more sustainable and resilient livelihoods through a range of income-generating opportunities" (TNC, 2015, p. 9) [8]. Our research indicates that stakeholders have included the WWF, the towns of Corral, La Unión, and Valdivia, the World Bank's Global Environmental Facility-Regional System of Protected Areas (GEF-SIRAP) program, and Alerce Coastal National Park (Delgado, 2005; TNC 2015). Additionally, the UNDP partnered with TNC to create a US\$300,000 fund aimed at developing pathways for neighboring communities.

PPA Context and Motivations for Community Engagement: Huilo Huilo, located in northern Patagonia within a UNESCO Biosphere Reserve, is a globally recognized ecotourism destination. Initiated in 1999 by

Victor Petermann and partners, it spans 104,000 hectares and focuses on sustainable development, conservation, and community engagement. The Huilo Huilo Foundation supports biodiversity conservation and nature tourism, with increasing visitor numbers from 5,068 in 2004 to over 50,000 in 2013. The local communities, such as Neltume and Puerto Fuy, traditionally worked in timber industries, facing low wages and social unrest. Huilo Huilo's leadership emphasizes working with local communities as essential for mutual benefit. The Nature Conservancy (TNC) and WWF established the RCV reserve in 2003 to protect an underrepresented ecosystem in the Valdivia province, with tourism increasing from 300 visitors in 2006 to 1,794 in 2014. TNC works with local communities like Huiro and Chaihuín, using community rangers to facilitate development programs and secure funding. Oncol Park, established in 1985, protects 754 hectares of Valdivian forest. Its visitor numbers grew from fewer than 200 in 1990 to 14,000 in 2007. The park's administration collaborates with local communities like Bonifacio and Los Pellines, focusing on integrating community management programs and maintaining the park's biological corridor.

Impacts on Human Well-Being: Economic Opportunities: Local communities initially expected PPAs to create jobs, influenced by a timber employment culture. However, wealthy landowners, like TNC, did not provide the anticipated employment opportunities (Bon-001, Huape-009). Huilo Huilo created local jobs, replacing traditional timber work with forest-friendly employment, benefiting both the community and the environment (HH-001, Oncol-001). TNC supported diverse income sources, including ecotourism and sustainable practices, improving local economies (Huape-003, CH-008). Despite this, local entrepreneurs needed more knowledge and financial capital to succeed in tourism, with some selling land to fund their ventures (Huape-002). Economic opportunities were perceived as unevenly distributed, with some individuals receiving more support than others (NEL-011, TNC-003, TNC-004).

Renewed Human-Nature Relations: Local communities have shifted their attitudes toward nature under PPAs, moving away from utilitarian values. A guide from Chaihuín noted that the community now feels "more respect towards nature" (CH-008). The protection and restoration of native forests have led to a deeper understanding of conservation issues (HH-002). Many near Huilo Huilo and RCV communities expressed that people now favor conservation and have a better understanding of nature (NEL-007). A long-term resident of RCV reflected on past attitudes toward nature, admitting regret for past practices of wasteful wood use, now made harder due to resource scarcity (CH-009) [9]. This change was attributed to a patient, non-coercive approach by PPAs, emphasizing dialogue over enforcement (TNC-003, HH-002). An RCV official highlighted the importance of altering people's relationship with the environment for successful tourism development (TNC-002).

Enriched Youth: PPAs also created new opportunities for historically disadvantaged youth. At all three sites, youth participated in educational trips focused on forest ecology, conservation, and ecotourism, while some areas like Neltume and Puerto Fuy offered lessons in music, language, and scholarships. Adults observed that youth now better understand the environment (NEL-005) and, in some cases, can avoid migration to cities. Young adults near Oncol Park and Huilo Huilo found work in outdoor recreation and tourism, and a former Huilo Huilo employee noted that youth now learn to value the forest sustainably, gaining long-term advantages from tourism (NEL-007).

Community Improvements: PPAs have contributed to community development through partnerships. Oncol Park helped repair a school roof and improve local infrastructure, while RCV communities benefited from trash

removal, paved roads, and bus services. Petermann and TNC provided water rights, ensuring clean water. Huilo Huilo transformed Neltume from a logging settlement to a thriving town. Puerto Fuy and Neltume also saw new public amenities like sculptures, playgrounds, and cultural centers, with initiatives such as a fire station and bike path improving local life.

Financial Security: PPAs shifted local economies from timber to tourism, providing new job opportunities. While tourism in Huilo Huilo boosted economic stability, concerns over seasonality and reliance on a single landowner arose. In RCV, social organization and cooperatives improved financial security, with TNC helping access project funds. However, some communities, like Oncol Park, grew disillusioned by the competitive funding system, feeling misled by unfulfilled promises, while others benefited from successful projects and increased trust.

Security Concerns and Community Perceptions: Some community members saw the support from PPAs owned by corporations as manipulation, particularly in Oncol Park, where residents opposed Arauco's proposed pulp mill. They feared financial offers were attempts to secure approval for the project. Similar sentiments were found in Huilo Huilo, where some felt engagement with the reserve was a publicity stunt [10].

Access to Forest Resources: PPA establishment restricted local access to forest resources, especially timber. Residents near RCV were frustrated by the prohibition of wood collection and lack of alternatives. Huilo Huilo residents also faced limits on hunting, fishing, and gathering wild edibles. Oncol Park residents had fewer concerns but still received wood occasionally.

Grazing Land and Livestock Impact: Restrictions on grazing land created tensions between communities and PPA administrations. Families reliant on winter grazing, particularly near RCV, had to reduce their herds or sell cattle. Some older residents struggled to accept these changes. A cooperative agreement was later made between cattle producers and TNC to adapt livestock practices without harming the reserve. Communities near Huilo Huilo and Oncol Park were less impacted due to their reduced dependence on forest resources.

Eviction with Limited Alternatives: Privatization near PPAs displaced families, particularly in Puerto Fuy, where Petermann's purchase of land forced residents off their homesteads without compensation or relocation options [11]. This left 37 families landless and priced out of local housing, while tourism development also suffered due to a lack of available land.

Empowerment and Stewardship: PPAs focused on educating local youth about environmental conservation, with programs in forest ecology and sustainable practices. These efforts helped children become advocates for nature within their households, and adults also adopted more sustainable behaviors through education. However, Oncol Park's outreach faced challenges with local adults who felt excluded.

Capacity-Building and Empowerment: PPAs offered skill-building programs in entrepreneurship, sustainable practices, and tourism. These initiatives boosted residents' self-confidence and led to a shift in mindset, empowering them to pursue new opportunities and take pride in their communities.

Female Empowerment: PPAs empowered women with skills to enter the workforce, shifting local cultural dynamics, particularly in Huilo Huilo and RCV. Women in Huilo Huilo, mostly working in tourism, often earned more than men. Some were seen as better entrepreneurs, unbound by traditional timber industry roles [12]. However, this empowerment sometimes led to household disruptions, like divorces or less time for children due to working mothers.

Community Disempowerment: Informants felt excluded from decision-making, leading to power imbalances and frustration. Despite this, there were acts of resistance, including protests and letters against PPA actions. Tensions emerged between those involved in tourism and those in traditional timber industries, with divisions deepened by foreign investment and employer tactics like Arauco's "divide and conquer" strategy.

Discussion

Our findings show that PPA administrations in Los Ríos prioritized community relations based on the belief that local people degraded forests and lacked sustainable livelihood capacities. Unlike traditional governance models, which view local people as a primary source of conflict, our study suggests a depoliticized view of community relations by governing actors [13]. This depoliticization process is influenced by factors such as the state's use of PPAs for species protection and development, PPA owners' control over land and interactions with locals, Chile's neoliberal property rights regime, and neutral language used by PPA administrations. While participatory conservation has gained momentum since the 1980s, PPAs in our study excluded local communities from governance decisions but promoted participation in ecotourism projects to foster self-governance. This model risks creating dependency, as PPA owners can withdraw support at their discretion. Despite this, ecotourism's perceived socioeconomic benefits have led to less conflict between local communities and park management, with some local people becoming advocates for conservation. To strengthen ecotourism partnerships, PPAs should address concerns about inadequate startup capital by collaborating with community leaders and focus on collective initiatives, especially in indigenous communities [14]. Additionally, reducing social inequalities and ensuring equitable distribution of benefits could improve community support and mitigate perceived disparities.

5. Conclusion

In conclusion, this study on the establishment and management of Protected Private Areas (PPAs) in the Los Ríos region of Chile has provided valuable insights into the motivations behind conservation efforts, the interactions between communities and PPAs, and the resulting social, economic, and environmental impacts. The findings highlight the complexity of balancing conservation goals with community development, particularly in rural areas where traditional livelihoods are often tied to natural resource use. The creation of PPAs, such as those in Huilo Huilo, Oncol Park, and RCV, was driven by a combination of national biodiversity conservation goals and the desire to create new economic opportunities through ecotourism. While PPAs have brought significant benefits, including job creation and infrastructure development, the economic opportunities were not evenly distributed across all community members. The shift from traditional timber-based economies to ecotourism has been a positive step toward sustainable development, but challenges remain, including concerns over seasonality, reliance on single landowners, and the uneven distribution of financial support. The study also found that PPAs have played a key role in transforming community attitudes toward nature, fostering a renewed respect for the environment and sustainable practices. This shift has been particularly evident in youth, who have gained a deeper understanding of conservation and have had access to new educational and employment opportunities. However, tensions have arisen in some communities due to restrictions on access to forest resources, including timber and grazing land, which have disrupted traditional livelihoods. These

challenges highlight the need for better communication, participatory decision-making, and alternative livelihoods that allow communities to coexist with conservation efforts. Despite these tensions, PPAs have contributed to community improvements, with infrastructure enhancements, educational programs, and the development of new economic ventures. Collaboration with a range of stakeholders, including NGOs, government agencies, and global conservation organizations, has been crucial in supporting these efforts. However, there is a need for further investment in capacity-building for local entrepreneurs and a more inclusive approach to ensure that all community members benefit from conservation initiatives.

Future Scope

- Tensions exist in communities due to restrictions on access to traditional forest resources, disrupting livelihoods.
- The need for better communication, participatory decision-making, and alternative livelihoods to support conservation and community coexistence is essential.
- PPAs have led to community improvements in infrastructure, education, and new economic ventures.
- Collaboration with NGOs, government agencies, and global conservation organizations has been crucial.

6. Reference

1. Jafari, J., & Scott, N. (2024). Ecotourism and biodiversity conservation: A global perspective.
2. Smith, A., & McDonald, R. (2023). The role of protected areas in fostering sustainable ecotourism.
3. Rodrigues, M., & Ferreira, S. (2022). Integrating community participation in ecotourism for effective biodiversity conservation.
4. Li, X., & Zhang, Q. (2022). Challenges of ecotourism in protected areas: A case study of the Amazon rainforest.
5. Chavez, R., & Medina, M. (2021). Ecotourism as a tool for biodiversity conservation in tropical regions.
6. Liu, P., & Huang, L. (2021). Economic impacts of ecotourism on biodiversity preservation in protected areas.
7. Duffy, R., & St. John, F. (2020). Biodiversity conservation and ecotourism: Synergies and tensions.
8. Hassan, F., & Ahmed, Z. (2020). Ecotourism and conservation challenges in Africa's protected areas.
9. Gannon, D., & Robinson, H. (2019). Ecotourism and sustainable development in protected areas: A global review.
10. Müller, M., & Auer, L. (2018). Ecotourism in protected areas: A double-edged sword for biodiversity conservation.
11. Barton, M., & Lawson, T. (2018). Community-based ecotourism and biodiversity conservation: A review of recent trends.
12. Suh, S., & Park, J. (2017). The effectiveness of ecotourism in biodiversity protection within national parks.
13. Miller, G., & Leiper, N. (2017). Ecotourism and sustainable development: A case study approach.



14. Zhang, L., & Xie, H. (2016). Assessing the impact of ecotourism on biodiversity conservation in China's protected areas.

IJMRR