

Private Conservation Areas and Biocultural Regeneration of the Forest Landscapes of Chanchamayo - Oxapampa Del Peru (2022)

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Abstract

This research aims to determine the current state of "Private Conservation Areas (ACP) and their influence on the biocultural regeneration of forest landscapes in the provinces of Chanchamayo and Oxapampa in Peru." The research is mixed, non-experimental, descriptive and revolves around the ACPs, recognized, in the process of recognition and conservation initiatives that are administered as ACPs in these provinces. Through intentional non-probabilistic sampling, in-depth interviews, surveys, and discussion groups were conducted with the owners of the ACPs. The results indicate that these initiatives play an important role in the protection and regeneration of forest cover, the conservation of endemic or threatened species and the promotion of environmental education. The preservation and care of the forest is essential for human life because it facilitates the cycle of water, oxygen and conservation of the environment. The lack of tax or economic incentives from the State, added to the little income that most of the activities they carry out within their ACP obtain, means that they depend on their own income to cover the expenses involved in the administration of their conservation zones.

Keywords: Private conservation areas, biocultural regeneration, forest landscapes, biodiversity, biocultural ethics.

Introduction

Biodiversity is essential in human life. However, the world and Peru are facing deforestation, understood as the change of forest land to another type or the loss of forest cover to less than 10%, as indicated by the "Food and Agriculture Organization of the United Nations" (FAO, 2020). The loss of forest land is worrisome because of the contributions that forests make to planetary well-being in material, non-material and regulatory terms, contributions that amply justify their conservation.

Deforestation has continued to increase systematically, every year, so in 2020 deforestation was 200,000 hectares (Law, Environment and Natural Resources [DAR], 2021). This implies a great loss of biodiversity and has an impact on the increase of greenhouse gases, not to mention other major problems such as the impact on the continental hydrological cycle, which has global repercussions. In this sense, we find in Presidential Resolution No. 162-2021-SERNANP, the definition of Private Conservation

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Areas as "those privately owned properties, whose management has allowed the conservation of representative samples of the natural ecosystem characteristic of the area in which they are located" (2021, pp.6). the Master Plan for Natural Protected Areas (Ministry of the Environment [MINAM], 2009) where he mentions the importance of the ACPs that "reflect a way of promoting and reinforcing citizen participation and the voluntary commitment of civil society to participate directly in the conservation of the country's Natural Heritage" (pp.12).

In Peru in 2022, it had 167 recognized ACPs and covers an area of 387,712 ha of the national territory, protected through this tool and complements over 23 million hectares protected by the National System of Natural Areas Protected by the State" (SERNANP, 2022). The province of Chanchamayo has one ACP, while the province of Oxapampa has five ACPs. To this, we must add the initiatives that are in the pipeline and those that have not yet begun the recognition process but that to date function as such.

The province of Chanchamayo is divided into 6 districts (see Fig.1)

Figure 1 Province of Chanchamayo-Junín

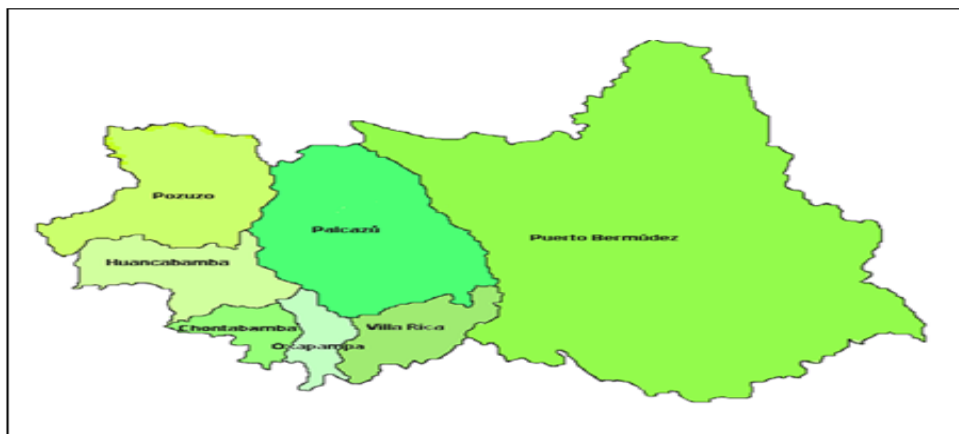


Source. Website of the Provincial Municipality of Chanchamayo (2013)

INEI studies (2008-2020) indicate that the province of Chanchamayo had 167,385 inhabitants, in addition to the presence of Asháninkas, Yaneshas and the presence of settlers of Italian descent. It has the ACP La Niebla Forest. Additionally, the Province has the Pampa Hermosa National Sanctuary and areas with the potential to become ACP such as the Velo de la Novia waterfall, the Bayoz Waterfall and the Tyrol Waterfall.

The province of Oxapampa has eight districts. How it is presented in the figure below:

Figure 2 Province of Oxapampa-Pasco



Source: Information Portal of the Provincial Municipality of Oxapampa (n.d.)

The total projected population in the City of Oxapampa by 2020 is 100,561 inhabitants (INEI, 2020). What is relevant about Oxapampa is the presence of Austro-German settlers who arrived in the mid-nineteenth century. Here you will find the ACPs Fundo las Neblinas, Zaragoza, Bosque de Churumuazú and Potsom Posho'll. The existence of the "Oxapampa-Asháninka-Yanesha Biosphere Reserve, the Oconal, the Sho'lllet Forest located in the district of Villa Rica and the Paths of the Delfín-Chumayel Settlers in the district of Pozuzo" (Moreno, 2014).

The phenomenon of deforestation is reducing the forest cover of the Peruvian territory at alarming rates. Faced with this problem, the State considers "the recognition of conservation areas", with the ACPs having a substantial development in recent years, having an important impact on the protection of biological diversity, especially in areas that do not have State protection (Shanee et. al, 2017). The fundamental contribution of the ACPs arises from understanding these territories as landscapes. From this perspective, even in forest landscapes, those in which forest land use predominates, the human component is visible, as Merino (2018) mentions, despite the fact that the forest landscape seems to respond exclusively to natural factors, a humanized landscape is conceived, due to the form and distribution it has acquired respond to the action of human beings in their search for resources.

The contributions of the ACPs to the conservation of forest landscapes are understood in terms of the conservation and even regeneration of the biocultural conditions of the areas they cover and their surroundings. Bioculturality is that "biological-cultural complex that has emerged from the interaction between cultures and their natural environment" (Toledo et. al, 2019, p.18); In this sense, biocultural regeneration is the recovery of the biological and cultural wealth of a territory.

One of the practices compatible with the conservation purposes of the ACP is sustainable tourism, defined as "that which brings economic benefits while maintaining diversity and ecological quality" (Wearing, 1999, pp.57) and is an alternative through which they promote the conservation value of the ACP and the Caribbean. because it has potential for sustainable tourism due to its biological and cultural richness, especially the provinces of Oxapampa and Chanchamayo, which are some of the most important tourist destinations in the area (Carranza, 2017). For this reason, the Tourism Management Committee of the Province of Chanchamayo and the Technical Tourism Committee of Oxapampa have agreed to reactivate and promote the central jungle as a tourist destination for the development of both regions of Peru (Agencia Peruana de Noticias, 2020).

On the impact of PCAs, several studies have been carried out at the national level, (Shanee et. al (2017), one of them is the comparative diagnosis of the state of the Conservation Areas administered by the State and the ACPs; where information from NGOs dedicated to conservation and data from official sources are analyzed, reaching the conclusion that the ACPs contribute to the protection of biological diversity, especially in areas that do not have state coverage, and to the protection of some endangered species, especially species of amphibious animals that are only found in private conservation areas. In this sense, Aguilar, D. and Masgo, E. (2019) developed the research called "Evaluation of the effectiveness of the management of private conservation areas: Tilacancha and Huiquilla," work carried out in Amazonas, department with the largest number of Private Conservation Areas, reaching the conclusion that an adequate management of these conservation areas allows to fulfill the purposes of their creation by increasing the forest cover and performance of their Role of protection of limited use areas.

Private/Community "Conservation Areas"

The ACPs are considered citizen-promoted protection areas that aim to create bridges that connect with larger "protected natural areas", for example, national reserves, municipal and regional conservation areas (SPDA, 2019).

Institutionality and governance of the ACP

The owners of the properties recognized as ACP are required to commit to conserve the natural resources of the area and economic activities that are sustainable and compatible with conservation activities. Likewise, in 2020, the concepts and criteria for the identification of "Other Effective Area-Based Conservation Measures" (OEMC) were approved, opening up the possibility of including ACPs within this category, along with other conservation particularities, thus complementing the "National System of Natural Protected Areas" (MINAM, 2020).

"The National Service of Natural Protected Areas (SERNANP)" as a State institution linked to MINAM is the entity that receives applications for recognition, evaluates whether the applicants meet the requirements that allow such recognition and provides the necessary technical advice to the owners of the conservation areas throughout the recognition process (SPDA, 2019). It is also in charge of simplifying the process of recognition of new ACPs, to be more accessible and more people decide to access this recognition. It is worth mentioning the complementary areas such as the ANP Law (Law 26834, 1997), which establishes that the "Regional Conservation Areas (RCAs)" and the ACPs are not part of the "National System of Natural Areas Protected by the State" (SINANPE). This indicates that the defense and management of these areas is clearly the responsibility of the owners and not of SERNANP.

Importance of ACPs

Social Importance: ACPs have proven to involve communities, educational institutions, NGOs and private landowners in activities related to fostering a culture of conservation and training local leaders dedicated to conservation

Other institutions such as the Association for the Conservation of the Amazon Basin (ACCA), Conservamos por Naturaleza of the SPDA, Amazonians for the Amazon (AMPA), and Peruvian Association for the Conservation of Nature (APECO) are an example of the formation of "regional private and community conservation networks" that better face external risks and threats to their properties and the conservation of the environment.

Economic importance: According to the SINANPE Financial Plan (2016), the management of the NPAs costs the Peruvian State approximately 70 million dollars and does not complete the budget required to achieve the proper management of these areas. According to Nakamura (2017), between 2009 and 2015, US\$894 million was invested in biodiversity conservation projects in NPAs. As ACPs are privately managed, they are financed by their owners, often through sustainable activities SPDA (2019). Several ACPs are engaged in ecotourism activities by offering lodging, food, birdwatching or research tourism services. It is important to involve companies in conserving nature as part of their business under the focus of sustainability.

Environmental Importance: PCAs help maintain the ecosystem services provided by these areas and that are important for water regulation, which benefits "local populations" (Pineda, 2015). In this sense, mechanisms for remuneration for ecosystem services (MERESE) have been implemented or are being implemented in several ACPs, as is the case of the Tilacancha ACP.

Another approach to understanding the importance of PCAs is to analyse the contributions of these conservation areas from the approach promoted by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES, 2019), also

known as the "Nature's Contribution" approach to people. From this approach, there are three types of contributions: regulatory, material and non-material.

The "Fragmentation of habitats causes immediate and delayed loss of biodiversity at different trophic levels" (Krauss et al, 2010), that is, it is necessary to try to avoid the isolation of natural areas, which is being achieved through the initiatives of the ACPs to create biological or conservation corridors, an example is the "Huayllabamba basin". where the association "Amazonians for the Amazon (AMPA)" have promoted "private conservation" initiatives that connect various habitats and promote the gene flow of biological species.

Cultural importance: The ACPs carry out various types of tourism within their area and in their environment, some of these activities are related to research, ecotourism, experiential tourism or rural community tourism, investing in tourism ventures that take into account the care of nature, thus ensuring the presence of wildlife, the main tourist resource of the area (Lo and Monteferri, 2014).

Networks around ACPs

There are regional networks that bring together several private conservation areas and conservation initiatives, such as the Loreto Conservation Network (RACOL) that groups 23 ACPs and four conservation concessions (SPDA, 2019). Most of the time these networks are made up of members with different characteristics and needs, such as entrepreneurs, conservationists, peasant communities or native communities. These initiatives are observed to improve their efficiency and the achievement of their conservation objectives.

The Landscapes

The definition of landscape refers to an area of land that contains pieces of territory with particular characteristics. In this regard, there are many definitions, including that of Sandner (1991, cited in Carabelli, F., 2005) pointing out that "a landscape is a territorial system composed of natural elements and socially determined anthropogenic elements that correlate with each other" (pp.2).

Intact Forest Landscapes (IFLs): These are areas of uninterrupted forest that have not been affected by disturbances caused by roads or other human infrastructure (Forest Stewardship Council [FSC], 2019). These areas have environmental, social and intrinsic value. They are analyzed with the approach of sustainable landscapes, as stated by Conservation International (2018), sustainable landscapes are those where people manage "natural resources" through "sustainable production systems" to ensure human well-being.

Biocultural landscapes: Bezaury (2018) conceptualizes it as "a territory that shares its own landscape and identity, managed under a unified territorial management regime that promotes sustainable economic development through the protection and appreciation of nature and local culture" (p. 83).

Nature tourism and the ACP

Peru is a megadiverse country in which healthy ecosystems coexist that preserve their integrity and functionalities to guarantee the supply of goods and services for the benefit of the population. Currently, biodiversity is a valuable asset of our country's economic activity and income, as well as exports, which is a comparative advantage that we must turn into a sustainable competitive advantage to enter new emerging markets. (Ministry of the Environment, 2015).

Nature tourism is the activity that is carried out without changing the environmental harmony, promoting the "conservation of nature" and "existing ecosystems" by carrying out recreational activities to value and understand nature. (SEFOTUR, n.d.)

Private and similar conservation initiatives rescue the value of biodiversity that has been affected by human action in the development of its economic activities; This restoration of ecosystems generates a great environmental impact, mainly allowing the conservation of species that are moving away or becoming extinct due to variation in their ecosystem. The restoration of the flora and fauna of endemic species, added to the cultural and landscape richness, makes it attractive for visitors. Given the scenario described for Peru, it is evident that it offers a variety of opportunities and potentialities for ecotourism.

Based on these approaches, the objective of the research is to determine the current state of "Private Conservation Areas" (PCAs) and their influence on the biocultural regeneration of forest landscapes in the provinces of Chanchamayo and -Oxapampa of Peru–2022

Materials and Method

The research is mixed, non-experimental, descriptive that revolves around the recognized, recognized, and conservation initiatives that in practice are administered as ACPs in the provinces of Oxapampa-Pasco and Chanchamayo-Junín.

2.1. Universe and the study sample

The universe of study was the recognized PCAs, in the process of recognition, and those that, despite not having the recognition as PCAs, are administered in a similar way.

Table 1 Universe and sample of the study (in original language-Spanish)

Iniciativa de conservación	Universo	Muestra	Población
Áreas de conservación privada reconocidas en la provincia Oxapampa	Fundo Las Neblinas*	5	5
	Zaragoza*		
	Bosque de Churumazí*		
	Potsom Posho'll*		
	Bosque encantado de Shollet*		
Áreas de conservación privada reconocidas en la provincia de Chanchamayo	La Niebla Forest*	1	1
Iniciativas de conservación privada no reconocidas como ACP	Ulcumano Ecolodge *	2	11
	C. C. La Suiza		
	Osopampa		
	El Palmeral		
	La Gorda *		
	Los Abuelos		
	La Dama		
	Tierra de Bosques		
	Villa Rica I y II		
	Quetzales		
	C.C. Sacha Causay		

Fountain. "Oxapampa Conservation Initiatives Network".

2.2. Instrument and procedure

2.2.1. Instrument

The instruments used in data collection were:

On a quantitative level:

Secondary data (statistics, resolutions, investigations, etc. on the unit of analysis) and surveys were used in which closed and mixed questions were asked around the PCAs.

On a qualitative level:

- Participant observation allowed us to understand the population linked to the study areas. Video, filming and photography were also taken.
- The in-depth interview was conducted with the owners of the ACPs, representatives and tourists who are in the study areas of Oxapampa and Chanchamayo, according to the demand of the research objectives.

2.2.2. Procedure

To develop the research, the following stages were followed:

- Compilation of existing cartographic base
- Design of research tools and instruments that includes in-depth interviews, participant observation, photographic and audiovisual records
- Organization of field research teams
- Field research: Trips were made to Oxapampa and Chanchamayo on two occasions in June (5 days) and September (5 days) for the collection of secondary data and the application of collection instruments (surveys, in-depth interviews and participant observation).
- Data processing and emptying of data into charts, tables, graphs or figures
Cabinet work preparing the final report.

Results

3.1 Current situation of the "Private Conservation Areas" (PCAs) of the forest landscapes of the provinces of Chanchamayo-Junín and Oxapampa-Pasco.

There are currently five (5) recognized ACPs located in the province of Oxapampa and two of these are located in the district of Chontabamba (see Figure 3). In addition, two Private Conservation Initiatives were identified, which, despite not being recognized as ACPs, are administered as such and were included in the research because they are representative. This is the case of Fundo la Gorda, which plays an important role in connectivity due to its location in the El Tingo biological corridor and Ulcumano Ecolodge, recognized as an important ecotourism enterprise in the area (Tripadvisor, 2022).

In the case of Chanchamayo, the only ACP recognized is La Niebla Forest, and no ACP was found in the process of recognition or private conservation initiative that is administered as an ACP. Let's take a look at the table below:

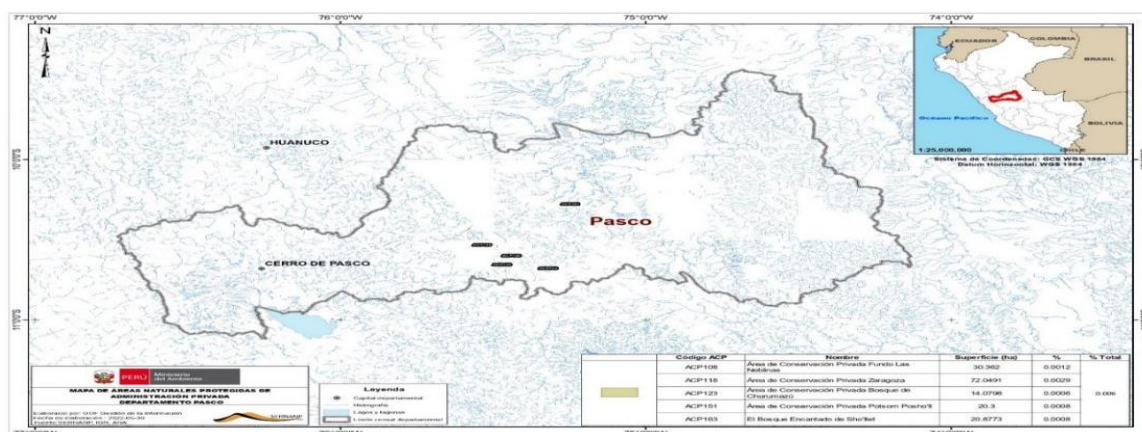
Table 2 General information on Conservation Areas. (in original language-Spanish)

Áreas de Conservación Privadas de la provincia de Oxapampa				
Nombre	Distrito de Ubicación	Año de reconocimiento	Extensión reconocida	Extensión total administrada
Bosque de Churumazú	Chontabamba	2017	14.08 ha	19.76 ha
Potsom Posholl	Palcazu	2021	20.30 ha	35.00 ha
Zaragoza	Huancabamba	2017	72.05 ha	-
Bosque encantado de Shollet	Oxapampa	2022	20.88 ha	20.88 ha
Fundo las Neblinas	Chontabamba	2016	30.36 ha	115.00 ha.
Áreas de Conservación Privadas de la provincia de Chanchamayo				
Nombre	Distrito de Ubicación	Año de reconocimiento	Extensión reconocida	Extensión total administrada
La niebla Forest	San Ramón	2020	70.28 ha	101 ha
Iniciativas de conservación privadas estudiadas en Oxapampa				
Nombre	Distrito de Ubicación	Año de reconocimiento	Extensión reconocida	Extensión total administrada
Fundo la Gorda	Chontabamba	-	-	51.64 ha
Ulcumano Ecologde	Chontabamba	-	-	52.35 ha

Source: Authors' own elaboration based on data collected in the study sites

Table 2 shows that the ACPs recognized, the oldest is Fundo las Neblinas, which was recognized in 2016, and the most recent is Bosque Encantado de Shollet, which was recognized in 2022. However, Ulcumano Ecologde began its conservation activities in 2008, despite being the first private initiative in the province to protect the cloud forest. This conservation initiative chose not to apply for recognition due to the bureaucratic procedures that SERNANP poses for the ACPs. Among the motivations mentioned by the owners of recognized ACPs to start the recognition process, the legal security implied by this recognition in the face of external threats and also of being part of the "System of Natural Protected Areas" stands out. However, they acknowledge that there are things to improve, especially in relation to the lack of "economic" or "tax" incentives

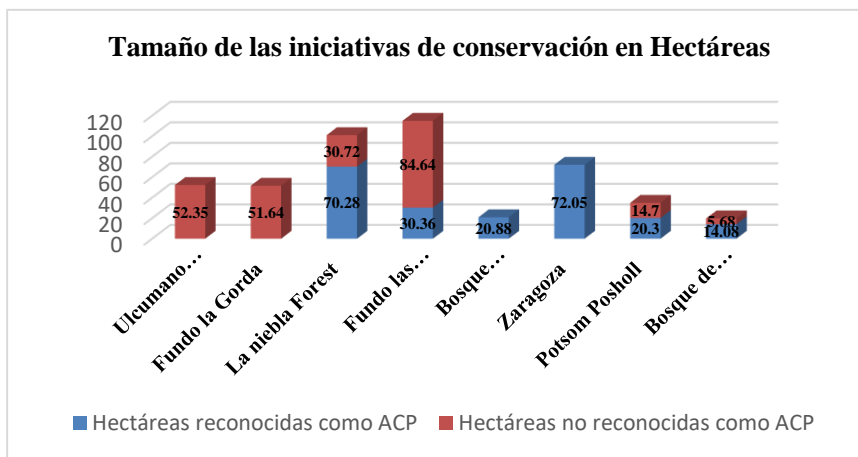
Figure 3 Map of ACP Recognized in Pasco



Note. Retrieved from the SERNANP Geoportal (2021)

In relation to the extension of the ACPs, it is observed that there are significant differences in several of the initiatives between the recognized area and the area that in practice they managed as conservation areas, see figure 4

Figure 4. (in original language-Spanish)



In terms of the types of initiatives, all of them are individual or family initiatives, with the exception of Potsom Posholl, which is a conservation initiative run by two brothers and a friend. In addition, it was identified that the only ACP in charge of a person from the locality is the ACP Zaragoza, in charge of Mr. Edilberto Pomazongo, born in Oxapampa. The rest of the initiatives are carried out by national or international migrants, most of them from Lima who decided to acquire a property in the area and undertake a conservation project (see table 3).

Table 3 Types of initiative and origin of members. (in original language-Spanish)

Áreas de Conservación Privadas de la provincia de Oxapampa		
Nombre	Tipo de iniciativa	Origen de los miembros del emprendimiento
Bosque de Churumazú	Iniciativa Individual.	Migrante nacional (Piura)
Potsom Posholl	Iniciativa colectiva (3 amigos)	Migrante nacional (Lima)
Zaragoza	Iniciativa Individual.	Poblador local (Oxapampa)
Bosque encantado de Shollet	Iniciativa familiar.	Migrante nacional (Lima)
Fundo las neblinas	Iniciativa familiar.	Pareja de migrantes internacional y nacional (pareja de italiano y limeña).
Áreas de Conservación Privadas de la provincia de Chanchamayo		
Nombre	Tipo de iniciativa	Origen de los miembros del emprendimiento.
La niebla Forest	Iniciativa familiar.	Pareja de migrantes internacional y nacional (pareja de limeño y belga).
Iniciativas de conservación privadas estudiadas en Oxapampa		
Nombre	Tipo de iniciativa	Origen de los miembros del emprendimiento
Fundo la gorda	Iniciativa individual.	Migrante nacional (Lima)
Ulcumano Ecolodge	Iniciativa individual.	Migrante nacional (Lima)

Each PCA sets a conservation objective as part of its recognition process, where those components whose importance merits recognition are mentioned. Most recognize the importance of protecting the forest and the flora or fauna that inhabit it.

In the case of "private conservation initiatives", they express the motivations of their undertaking and the importance of protecting the ecosystem from the ecosystem services provided by these areas, both in terms of ecological connectivity, but above all in relation to their contribution to the water systems of the area and the provision of water to the inhabitants of the area. Let's look at the table below:

Table 4 Objectives of the conservation area

Private Conservation Areas of the Province of Oxapampa	
Name	Objectives
Churumazú Forest	"Conserve the biodiversity of flora and fauna in the area; maintaining forest cover and encouraging natural forest regeneration; as well as contributing to the conservation of the micro-watersheds that are born there and that feed the basin of the Chontabamba River, a tributary of the Chorobamba and Pozuzo Rivers." (El Peruano. RESOLUCIÓN MINISTERIAL N° 330-2017-MINAM, 2017)
Potsom Posholl	"Conserve the biodiversity of flora and fauna, maintaining the forest cover of the Ecoregion humid forests of the Ucayali. Like this how to contribute to the micro-watersheds that originate in the Yanasha communal reserve that pass through Potsom Posholl, which drain their waters into the Iscozacín River, a tributary of the Palcazu River, which together with the Pichis River forms the great basin of the Pachitea River." (El Peruano. RESOLUCIÓN MINISTERIAL N°060-2021-MINAM, 2021)
Saragossa	"Conserve the humid montane forests located in the private conservation area of the Zaragoza sector, which has endemic and threatened species of wild flora and fauna and whose protection will contribute to the preservation of the ecosystem services provided by the forest, including water resources." (El Peruano. RESOLUCIÓN MINISTERIAL N° 127-2017-MINAM, 2017)
Enchanted Forest of Shollet	"Conserve the montane forests that are part of the Peruvian Yunga ecoregion, to protect biodiversity, contribute to the supply of water that feeds the Santa Cruz River and promote the development of productive, cultural and tourist activities under a sustainable management of natural resources." (El Peruano. Resolución Ministerial N.° 131-2022-MINAM, 2022)
He founded the Mists	"Conserve a representative sample of the cloud forests, their flora, fauna and water sources of the Swiss sector." (El Peruano. Resolución Ministerial N° 311-2016-MINAM, 2016)
Private Conservation Areas of the Province of Chanchamayo	
Name	Objectives
The Niebla Forest	"To conserve the representative ecosystems and ecosystem services of the tropical montane forest and tropical premontane forest of the Pichita Mountain, a refuge for endemic and threatened species such as the quetzal, the spectacled bear, the-of-the-rock, the reddish squirrel, the high-altitude sajino, the dwarf deer and relicts of the strong devil cinchona tree, biodiversity connectivity zone, in addition to contributing to the protection of the Meliza water micro-basin, an important supplier of water to the Oxabamba and Tarma rivers for the benefit of the local populations of the province of Chanchamayo." (El Peruano. RESOLUCIÓN MINISTERIAL N° 059-2020-MINAM, 2020)
Private Conservation Initiatives Studied in Oxapampa	
Name	Objectives




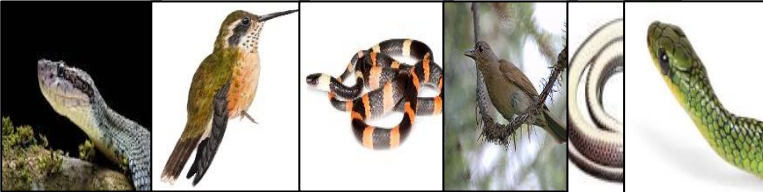
Fundo la Gorda	Create a space for the conservation of the cloud forest and consolidate the biological corridor of the San José ravine.
Ulcumano Ecolodge	Develop an ecotourism and conservation enterprise of the cloud forest ecosystem.



Source: GISN elaboration based on information from the owners of the ACPs and official documents, resolutions, and the newspaper El Peruano.

All conservation initiatives are aimed at having some water component of ecosystem importance. Some of the most important cases are the ACP la Niebla Forest, which has the "Meliza Water micro-basin", one of the main sources that feeds the Oxabamba and Tarma rivers, which provides water to local inhabitants of the province of Chanchamayo. Another is that of the ACP Potsom Posholl, which contributes to the "micro-watersheds" that originate in the "Yanasha communal reserve" and drain their waters into the Iscozacín River, a tributary of the Palcazu River, which together with the Pichis River forms the great "Pachitea River basin". In addition, the ACP Bosque de Churumazú contributes to the conservation of the micro-watersheds that feed the Chontabamba River basin and serve as a source of water for cattle ranchers in the area.

Regarding the "conservation of biological diversity", an inventory of the species of flora and fauna of the conservation areas was carried out because these areas provide shelter and food for various species of fauna, which we present below:

Figure 5 Photograph of the species of the order Orthoptera in the ACP Bosque de Churumazú

	Junín Mouse (Akodon juninenses)
	The Poison Dart Frog
	Rhinella yunga
	Tettigoniidae
<p>Endemics</p>   <p>They are home to species with different categories of threat</p>	<p>Rupicola peruviana (Least Concern)</p> <p>Tremarctos ornatus (Vulnerable).</p>
Species were identified in the Churumazú Forest:	
	Bothrops chloromelas (lamon),
	melanogenys
	Oxyrhopus,
	Leucomelas
	Clelia Clelia
Amphibians or reptiles	Chironius monticola.

 <p>e Botanical Species</p>	<p>Heliocarpus americanus (Huampo)</p> <p>Nativ</p>
	<p>Miconia sp</p> <p>Cecropia sp</p> <p>Nicotiana stormosa</p>
 <p>Bird species</p>	<p>Ortalis guttata</p> <p>Leptotila verreauxi,</p> <p>Hummingbird coruscans</p> <p>Pteroglossus castanotis</p> <p>Herpsilochmus motacilloides</p> <p>Cercomacroides nigrescens</p> <p>Cranioleuca curtata</p> <p>Eubucco versicolor</p> <p>Piranga leucoptera</p> <p>Crypturellus obestates</p>

Note: Aurometabolos belonging to the family Tettigonidae and an inventory of endemic and dawned species identified by Eduardo Jackson

Another important aspect is the existence of networks that bring together a majority of the conservation areas. This is the case of the "Network of Initiatives of Conservation Areas of Oxapampa (RIACO)" which brings together 3 of the 5 recognized Conservation Areas in Oxapampa and the 2 unrecognized conservation initiatives analyzed as part of this study. According to RIACO (2022), its objectives are as follows:

- Encourage the creation of new voluntary conservation initiatives.
- Take action to ensure the sustainability of conservation initiatives
- Organize and promote environmental education.
- Implement projects aimed at preserving fragile ecosystems.
- Participate in environmental policies aimed at promoting voluntary conservation.
- Disseminate the experiences and opportunities offered by voluntary conservation.
- Convene other organizations and participate in various associative ways.

- Promote the culture and "biological diversity" of the peoples of Pasco.

In the case of Chanchamayo, La Niebla Forest manages its own network called Reforestadores, which brings together people from the area interested in forest conservation. It is not associated with RIACO due to the distance that makes collaboration difficult, however, they have collaborated at some point and have constant communication (Table 7).

Table 5 Conservation initiatives associated with RIACO. (in original language-Spanish)

Iniciativas de conservación de Oxapampa	¿Asociado a RIACO?
ACP Bosque de Churumazú	Sí, Eduardo Jackson es miembro.
ACP Potsom Posholl	Sí, Carolina Llerena es la presidenta.
ACP Zaragoza	No.
ACP Bosque Encantado de Shollet	No, aunque tienen contacto frecuente con otras iniciativas de la zona, como el bosque de Shollet y RIACO.
ACP Fundo las Neblinas	Sí, Umberto Roncoroni es miembro.
Fundo la Gorda	Sí, Álvaro Ibarra es miembro.
Ulcumano Ecolodge	Sí, Eduardo de la Cadena es miembro.

Regarding associativity, it is of vital importance, especially when it comes to managing the various threats that affect the survival of ACPs or their conservation work. The landowners recognize as a threat the agricultural activities carried out in the surroundings of their ACP, due to the use of agrochemicals and especially the burning of agricultural residues that can generate a fire that affects the forests of their conservation area. Another threat is land invasions that have been carried out in areas close to their ACP and that may affect their property. Finally, there are the implementation of infrastructure projects that affect their conservation areas, such as the case of Eduardo Jackson, owner of the "ACP Bosque de Churumazú" who mentions that his land was affected by a water project of the regional government of Pasco that opened a trench of approximately 550 meters inside his ACP for the installation of a 6-inch pipe. without any consultation and without having an environmental certification approved by the competent authority. This work affected its ACP, causing the removal of vegetation cover and damaging the roots of the trees, affecting the stability of the hillside and the activities of its tourist route.

3.2 Impact of ACPs on the recovery of forests and forest landscapes in the provinces of Chanchamayo-Junín and Oxapampa-Pasco.

The activities carried out in the ACP to promote the recovery of forest cover take place at two levels, within and around the ACP. Reforestation within the same area was identified as not necessary in the case of Potsom Posholl because the forest maintains a primary structure. In the case of the Enchanted Forest of Shollet and Ulcumano Ecolodge, the natural regeneration of the forest is chosen, offering the right conditions for this process to develop.

The Bosque de Churumazú, La Niebla Forest, Zaragoza and Fundo las Neblinas conservation areas, in addition to promoting natural regeneration, carry out reforestation activities with native species. La Niebla Forest stands out for carrying out a reforestation project applying the Fukuoka method and distributing clay containers with seeds using drones. In the Churumazú Forest, there are areas degraded by human activity carried out before the establishment, however, it has been restored through two different processes. On the one hand, there is a natural regeneration process of the forest, which is constantly monitored by the manager and, on the other hand, there is an assisted regeneration process that involves: identifying the affected areas, choosing suitable species for the area, planting the trees and supervising the regeneration. For this process, the support of institutions, such as SERFOR, Scouts of Peru, Reforestamos por Naturaleza, and natural persons, such as visitors or friends willing to support in these tasks, is important.

In relation to the reforestation of the areas surrounding the conservation area, Potsom Posholl carries out projects with local residents, including members of the Yanasha communities in the area. In addition, ACP Zaragoza has carried out reforestation projects with the native Tsachopen community, near its conservation area

The impact of PSAs on the recovery of forests and forest landscapes in the areas studied is many and very important, especially in environmental education, aimed at children, aimed at promoting the value that the inhabitants give to the forest and consequently to life.

Figure 6 Restoration projects carried out by RIACO



Note. Retrieved from Jackson (2022). Contribution of ACPs to the biocultural landscape of the Central Jungle of Peru

3.3 Impact on the strengthening and cultural reaffirmation of the forest landscapes of the provinces of Chanchamayo in Junín and Oxapampa in Pasco as a result of the establishment and management of the ACPs.

The three types of contributions made by the ACPs to the strengthening and cultural reaffirmation of the local population were recognized as impact, these are the activities to promote environmental education, projects with native communities in the area and conservation of elements with cultural value for the native population of the area.

Regarding the impact of the educational activities carried out in the area, it was found that more than half of the conservation initiatives studied carry out environmental education activities with the inhabitants of the area. This is the case of the Churumazú Forest, the owner works with a school in the district of Chontabamba and has carried out projects related to the production of organic food in bio-gardens. In addition, in coordination with this school, it is collaborating with students in the last year of secondary school in the realization of a research project that aims to investigate the role of ACPs in the conservation of ecosystems, adaptation to climate change and sustainable development. In this regard, it is important to remember that one of the objectives of RIACO as an association is the promotion of environmental education and it is precisely the associated initiatives that mention having carried out this type of activity.

Figure 7 Projects with which RIACO has collaborated



Note. Retrieved from Jackson (2022). Contribution of the ACP to the biocultural landscape of the Central Jungle of Peru.

In relation to the correspondence between the native communities and the conservation initiatives of this area, we consider it to be an important component due to the number of native communities of the "Yanesha Ethnic Group" that exist in the province of Oxapampa. An example of this dynamic are the activities carried out by Potsom Posholl, which has carried out similar forestry projects with the Santo Domingo sector of the native community of Santa Rosa de Pichanas. In addition, they have held photography workshops with the children of this community and biobusiness workshops with the "Tsachopen native community". In the Churumazú Forest, they have projects to carry out workshops to exchange knowledge with members of a Yanesha community near their conservation area and hope that they can be carried out soon. Another conservation area, which is quite close to the communities is Zaragoza, since the territory where this conservation area is currently constituted is recognized as ancestral lands of the Tsachopen community and the basins that are born in this area provide water for their use, so they are in constant communication. In the case of ACP La Niebla Forest, they have carried out environmental education and training in sustainable activities in a neighboring community with which they hope to carry out new projects.

Finally, it was found that within some ACPs, places or elements with cultural value for the communities in the area were recognized. The ACP Bosque de Churumazú, which has mountains of a sacred nature for the Yanesha people within their ACP, or the Enchanted Forest of Shollet, which has lagoons and sacred mountains in its surroundings, whose access passes through areas adjacent to its conservation area. In addition, the owner of La Niebla Forest has identified the remains of a pre-Hispanic road, apparently of Inca authorship, which connects his conservation area with a community in the Sierra and which may have been used in the past for exchange purposes. It is currently collaborating with this community in projects that allow revaluing this road as a tourist attraction and raising awareness about the importance of protecting its environmental and cultural heritage.

3.4 Socioeconomic impact on families, communities, companies and organizations that have joined the establishment and management of ACP of the forest landscapes of the provinces of Chanchamayo in Junín and Oxapampa in Pasco.

Regarding the socio-economic impact of conservation initiatives in the area, it is important to mention that currently not all these areas carry out some type of economic activity within their ACP, as is the case of Potsom Posholl, Shollet Enchanted Forest, Zaragoza or La Niebla Forest. This is due to the investment required to build infrastructure to sustain this type of activity and which they currently lack, as is the case of Postsom Posholl, which currently does not yet have lodging infrastructure or tourism

trails and some were implementing some tourist activities, was interrupted by the pandemic.

There are conservation initiatives that have introduced ecotourism activities within their area, which are compatible with their conservation objectives, but have not yet achieved the sustainability of their conservation activities through this activity alone. This is the case of the "ACP Bosque de Churumazú" and Fundo la Gorda. The ACP Bosque de Churumazú currently offers two tourist services: the environmental interpretation hike and the birdwatching walk, both with a staggered fee (general rate, children, teenagers, students and seniors).

Figure 8 Sustainable economic activities promoted by RIACO.



Note. Retrieved from Jackson (2022). Contribution of the ACP to the biocultural landscape of the Central Jungle of Peru.

According to the owner, the environmental interpretation walks are usually aimed at single people and families who have a pleasant experience walking in the forest, while being told about the project and the conservation and restoration work they do. The birding walk is a more specific service dedicated primarily to recording birds, listening to them, or photographing them. This activity is aimed at a general audience, whether or not they have experience in this birdwatching activity, binoculars are provided. In addition, it has infrastructure with which it plans to enable the hosting service soon. Regarding the impact of the conservation area on the local economic dynamics, the owner recommends products from the area to visitors, but due to the low flow of tourists interested in this type of tourism, the economic impact on the local population is marginal for the moment.

A similar case is the Fundo La Gorda, which offers the lodging service with two wooden cabins that use solar panels for lighting. They include hiking trails in the woods and tour of the owner's farm. Like the ACP Bosque de Churumazú, due to the scale of their ventures and the income they obtain from this activity, they depend on other income to cover their expenses and the expenses of maintaining their conservation area.

Of the conservation initiatives studied, the one with the greatest impact is Ulcumano Ecolodge, which manages to cover its conservation expenses with its ecotourism activities, which it has been carrying out since 2008. It currently has six cabins and includes a number of activities such as canopy, photographic safari, canyoning or climbing. In addition, as part of its proposal, it operates under the so-called zero-kilometer concept, since the inputs acquired and the hired workers come from the local population, injecting money into the economy of the area and reducing its carbon footprint by avoiding the unnecessary use of means of transport.

Discussion

Private Conservation Areas (PCAs) play a fundamental role in promoting the ecological connectivity of flora and fauna. They are also important for "nature's contributions to people" in material, non-material, and cultural terms. The ACPs studied play an important role in regulating water at local and regional level. In this sense, we agree with Elkinn Masgo (2019) when he argues that conservation areas have allowed them to fulfill the purposes for which they were created, increasing forest cover and fulfilling their role of protecting areas of limited use.

It should be noted that ACPs are recognized due to the effort and investment of individuals, families or groups of friends, but they do not have economic incentives from the State that allow them to develop. There is a great effort on the part of those interested to be recognized, but they also have to comply with cumbersome administrative procedures and technical requirements to maintain recognition, which has caused that several ACPs have not been able to obtain recognition on the entirety of their land, and others that still do not even move their procedures so they have chosen to abandon them or be discouraged from continuing to seek recognition. It should be considered that ACPs are not an equivalent of Natural Protected Areas (NPAs) in a small way, but have a special character. These are aspects that must be taken into account if the authorities are to promote the recognition of new ACPs.

The contributions of the ACPs to the knowledge of the local flora and fauna are significant based on the research carried out within them. But this depends more on external interest (researchers) than on internal possibilities due to budgetary issues. However, the potential is great, especially if we consider that these PCAs are found in mountain ecosystems with a high probability of hosting endemic species.

The economic contributions are still insignificant, this contrasts with various areas that function in practice as if they were ACPs (tourist places with waterfalls, lagoons or ravines of special beauty) around which a thriving tourism industry develops that drives the economy in the region. The proximity to Lima gives it a special value as it facilitates its accessibility.

As has been seen, the ACP also contains valuable cultural traits linked to the worldview of indigenous peoples and archaeological remains. Additionally, they play an important role in environmental education.

Since ACPs are very important, conservation should not be limited only to NPAs or ACPs, but a vision of landscapes is required so that the spirit of conservation prevails in other forms of land use, but also, as Juan Luis Dammert, and Elisa Canziani and Carmen Heck (2011) argue, and we affirm as a result of our research, that the main motivations that guide the work of conservationists They are related to the value they attribute to nature as a good in itself and on the other hand, to the "conservation of natural resources" linked to some economic activity, giving value to water as a fundamental right that human beings require to live, experiential tourism and areas dedicated to ecotourism but without deforesting the forest. From this perspective, it is necessary to overcome a distinctive vision of conservation that separates human beings and nature and to reconquer rather a socio-ecological vision that gives it meaning and that promotes recognizing the close interrelations that exist between human beings and nature, so that an approach of biocultural ethics is pertinent in such a way that it reconquers a judgment of the vital links between the life habits of the human beings. cohabitants." In this sense, the conservation of the ACPs is not at odds with cultural considerations. The environmental education that is developed around the ACP should have the focus on complex adaptive systems to achieve the interrelationship between the ecological, the social, the institutional and the political.

Conclusions

- There are conservation initiatives that, despite not having the recognition as ACP granted by SERNANP, are administered as such and meet similar protection objectives, as is the case of the ACP La Gorda that wishes to start its recognition process later or Ulcumano Ecolodge that prefers not to opt for recognition.
- The ACPs in the provinces of Oxapampa and Chanchamayo play an important role in the "conservation of ecosystems" that play a crucial role in the storage, generation and transport of water to the inhabitants of the area and to the different water systems that exist in the surroundings. In addition, they are important for the conservation of biodiversity, as there are species within their scope of protection that are threatened or endemic to the area.
- The cultural values that exist in the area are mainly related to the interaction that conservation initiatives have with the Yanasha communities in the Oxapampa area. In addition, the existence of mountains and lakes sacred to this people within some of the ACPS is recognized. In the case of Chanchamayo, this collaboration has also been carried out between the ACP La Niebla Forest and a neighboring community, with plans for the revaluation of an apparently Inca road that connects its ACP with the community in question.
- Associating these conservation initiatives in networks is vital for their defense against external threats, such as potential forest fires caused by irresponsible agriculture or infrastructure projects that threaten one of the area's conservation areas. In this sense, the work of RIACO stands out, which operates "Oxapampa" and brings together more than half of the conservation initiatives analyzed in that province.
- As part of their conservation work, several of the owners include reforestation activities that allow them to recover areas that have been affected by human activity carried out before the acquisition of the property. In addition, they carry out environmental education activities with the local population, which in turn implies a reduction in the risks that the carrying out of a polluting activity in the area would bring to their conservation initiative.
- In the case of the economy, it was found that not all ACPs carried out economic activities. In fact, only one of the conservation initiatives studied indicated that the main source of funding for its conservation activities came from the ecotourism services it provided. Due to the size of the rest of the enterprises, the contribution they make to the local population is marginal.

Recommendations

- Promote economic or tax incentives at the State level that promote ACPs to achieve their financial sustainability that allows them to carry out their conservation activities, without involving an investment of their own resources.
- Establish a regulatory framework that avoids the development of infrastructure that may threaten the conservation area and that facilitates the recognition of the entire property, formalizing the conservation work that the owners already carry out on their entire property.
- Promote research on the conservation and regeneration of forests through universities as required by University Law 30220 in its article 24, with a holistic, transversal and multidisciplinary orientation, recognizing the complexity of the biocultural reality and forest landscapes.

- Raise awareness through awareness-raising courses on topics related to human rights, the environment and natural production aimed at the sustainable development of the areas surrounding the ACP to avoid poverty, child malnutrition, social conflicts and deforestation of the forest.
- Promote research on medicinal plants in these conservation areas, especially taking into account indigenous communities, respecting their ancestral knowledge, uses and customs, and making them part of the sustainable development of their social environment and society.

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