PV CLIMATE

PROJECT IDEA NOTE

Más Árboles

Department of Cusco, Perú

June 2025

Developed by:

Form International B.V.
Eijerdijk 87
8051 MS Hattem
Netherlands
+31 (0)38 444 8990
info@forminternational.nl
www.forminternational.nl

Sembramos Prosperidad
Pachamama Raymi
Calle Pavitos 567
Cusco, Perú
+51 84 236540
hola@pachamamaraymi.org
www.pachamamaraymi.org

Contents

Overview

Project Title:	Más Árboles
Location:	Department of Cusco, Perú. Provinces: Paruro and Chumbivilcas Districts: Huanoquite, Ccapi, Accha, Omacha and Ccapacmarca
Project Coordinator:	Sembramos Prosperidad Calle Pavitos 567, Cusco, Perú +51 84 236540 hola@pachamamaraymi.org www.pachamamaraymi.org
Project Area:	Based on the capacity of the participating communities, the Project has defined a current planting area of 13,300 hectares over the course of 7 years, less than 11% of the total communal area. Potential future expansion: Up to a maximum of 20% of the initial communal area (maximum 24,535 ha) and/or including a second group of communities, translating to maximum of another 5512 ha (20% of 27,562 ha).
Project Participants:	The initial project participants are 35 rural communities in 5 districts: Huanoquite, Ccapi, Accha, Omacha and Ccapacmarca in the provinces of Paruro and Chumbivilcas in the Cusco Region, Peru. There are 4439 households in these communities.
Project Intervention(s):	1. Afforestation with commercial timber tree species *Pinus radiata* and *Pinus patula* (Rehabilitation) 2. Afforestation, reforestation, conservation and enrichment with native species (Restoration) 3. Capacity Building
Expected Benefits:	(Contribution to) rehabilitation of the ecosystem and enhanced biodiversity in the region. Improved ecosystem services such as improved soil quality and water infiltration reducing flood and landslide risks and soil erosion Diversification of community income sources such as mushroom production, project jobs, wood production. Strengthening community organization and governance, for instance by resolving territorial conflicts and improving fire prevention and control. Based on preliminary estimates, the project is expected to sequester 1,255,167 tonnes of CO_2 for a period of 32 years (2023 – 2054), covering 13,300 hectares of mixed pine stands and 1,330 hectares of conservation and assisted natural regeneration (ANR). Based on a risk buffer of 20%, this translates to 1,004,134 marketable credits in total.
Methodology:	PM001 - AGRICULTURE AND FORESTRY CARBON BENEFIT ASSESSMENT METHODOLOGY V1.0
PIN Version:	5.0
Date Approved:	

1 General Information

1.1 Project Interventions

Table 1.1 – Project Interventions

Intervention Type	Project Intervention	Expected Benefits
Rehabilitation	The project involves afforestation of degraded high Andean mountain slopes currently covered with grassy vegetation with *Pinus radiata* and *Pinus patula*, carried out by 35 small farmer communities on communal lands. It aims to afforest 13,300 ha in a period of seven years starting from 2023, with an average density of 493 trees per hectare. A final harvest of the plantation is planned after 26 years. During the pine rotation, the planted area is allowed to begin its rehabilitation process through the introduction of native species and the assistance of natural regeneration.	The intervention is expected to sequester 1,255,167 tonnes of CO_2 for a period of 32 years (2023 – 2054). Based on a risk buffer of 20%, this translates to 1,004,134 marketable credits in total. The pine plantations will produce edible and marketable mushrooms (100 kg ha^{-1} per year), commercial logs (98 m^3 ha^{-1} at final harvesting) and firewood. These new revenue streams will improve the livelihoods of the participating communities, benefitting 4439 families. After harvesting the first plantation of pine, further rewilding of the harvested area through assisted natural regeneration is promoted. The plantations and increasing understory vegetation will lead to improved water retention in the soil and slope stabilization, reducing the risks of floods and landslides.
Capacity Building	In addition to the environmental and financial benefits, the Project focuses on capacity building, encompassing the peer learning of various groups of residents, among which the active participation of women and older adults stands out. These learning sessions encompass nursery management, forestry management, pest control, forest disease management, strengthening governance, legal aspects of legal personality, and land ownership, among other aspects.	This will provide beneficiaries with new skills to empower and enable them to create their own sources of income as entrepreneurs. Productive family businesses will improve the financial situation of the communities. The planting of irrigated fodder reduces the need for free grazing, which allows vegetation recovery in the formerly roamed and frequently burned lands, essential for the recovery of native vegetation.
Restoration	Restoration of native species. In each participating community, an area equivalent to 10% of the area to be afforested with pine will be conserved through protection of relict forest and allowing natural regeneration and enrichment with and assisted regeneration of native	Andean forests in Peru are capable of sequestering an average of 165 to 280 tons of CO2 per hectare (Duque et al., 2021; SERFOR, 2023), while Andean grasslands can sequester between 15 and 18 tons of CO2 per hectare, considering both aboveground biomass and root

	species such as Queña (*Polylepis spp*), Colle/Kiswar (*Buddleja coriacea*), Molle (*Schinus molle*), Aliso (*Alnus acuminata*), Chachacomo (*Escallonia resinosa*), Juñuca (*Mentha stachys mollis*), *Podocarpus glomeratus*, Tasta (*Escallonia myrtilloides*), Cheche (*Berberis* spp), Tayance (*Baccharis* spp), Broom (*Senna* spp), Romerillo (*Gynoxis* spp), Pampa tayanca (*Muehlenbeckia volcanica*), Unca (*Myrcianthes* spp), Tarwi (*Lupinus mutabilis*), *Lupinus gibertianus, Kageneckia lanceolata*.	biomass (Quispe Mayta, 2017). In addition, it contributes to the recovery of degraded soils, water infiltration capacity, water availability, the recovery of native biodiversity, and landscape restoration. These improved ecosystem services not only reduce the risk of flooding but also contribute to the revival of ancestral knowledge. For example, by restoring biodiversity, traditional medicinal plants are reintroduced, thus revitalizing indigenous knowledge systems and their importance in local communities

1.2 Project Boundaries

Maps showing the boundaries of the proposed project region, project areas, and protected areas within or adjacent to the project region : (see detailed maps per district and protected area map in Annex 1)

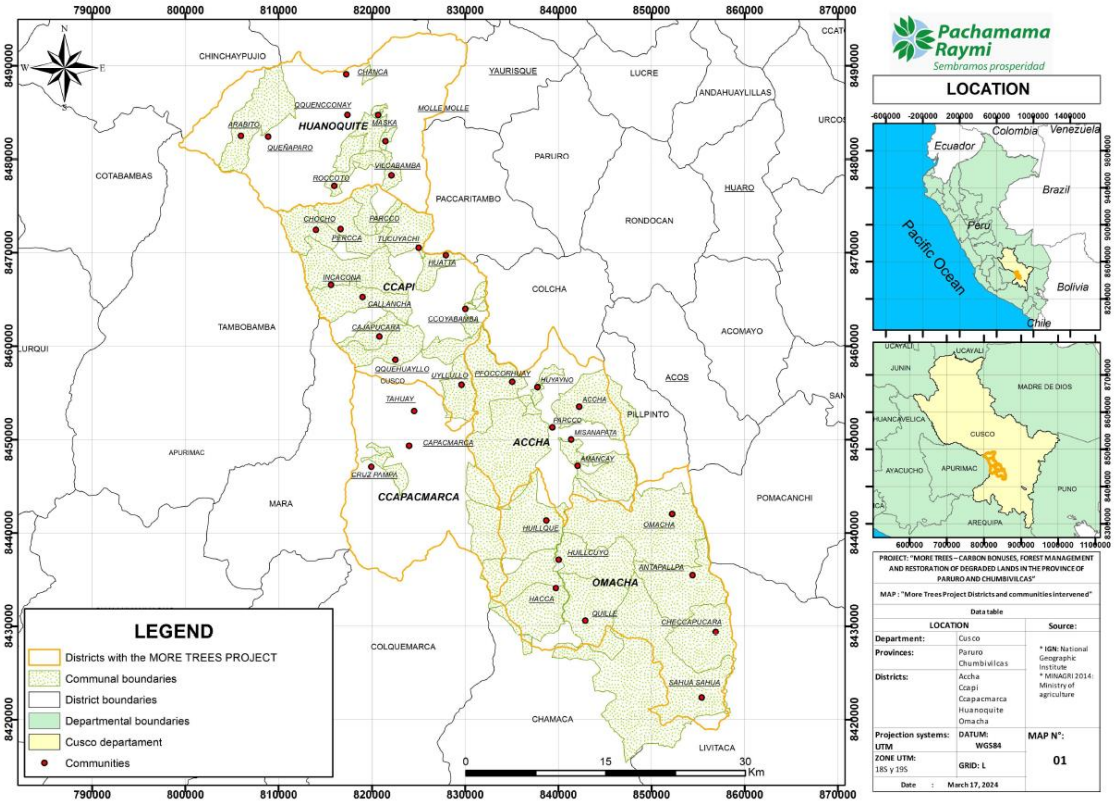


Table 1.2 Project Boundaries

<table>
<tr><td>Location:</td><td>Country: Perú
Department: Cusco
Provinces: Paruro and Chumbivilcas
Districts: Huanoquite, Ccapi, Accha, Omacha and Ccapacmarca
(Detailed district Maps are provided in Annex 1)</td></tr>
<tr><td>Project Region(s):</td><td>1. Paruro province (198,400 ha)
2. Chumbivilcas province (537,100 ha)
3. Acomayo province (potential expansion – 94,820 ha)
Project Region is 830,320 ha in total.</td></tr>
<tr><td>Project Area(s):</td><td>
<table>
<tr><th>Total area (35 communities)</th><th>Maximum potential area to be reforested with pines</th><th>Currently projected area to be planted in 7 years</th><th>Area for conservation purposes</th></tr>
<tr><td>122,675 ha</td><td>24,535 ha</td><td>13,300 ha</td><td>1,330 ha</td></tr>
</table>
</td></tr>
<tr><td>Protected Areas:</td><td>Legally designated protected areas within or adjacent to the project region:

Santuario Nacional de Machu Picchu
Area: Approximately 32,592 hectares.
Flora: Diverse vegetation zones from cloud forest to Andean highlands. It includes Polylepis forests, ferns, orchids (around 372 species), and bromeliads.
Fauna: Spectacled bears, Andean foxes, cock-of-the-rock (Peru’s national bird), and over 400 bird species.
Distance from Project Area: Around 70-150 km northwest with a 5000m altitude mountain ridge in between.
Santuario Nacional de Ampay
Area: Approximately 3,635 hectares.
Flora: Known for the Intimpa or Podocarpus glomeratus, Peru's only native conifer, along with Andean forest species and high-altitude shrubs.
Fauna: Includes the Andean fox, vizcachas (a type of rodent), and several bird species, such as the Andean condor.
Distance from Project Area: Approximately 80-150 km west, at least 1000m higher in altitude.
Área de conservación Regional Choquequirao
Area: Roughly 103,814 hectares.
Flora: Features diverse ecosystems, including cloud forests and high-altitude grasslands, with a variety of orchid species and native Andean flora.
Fauna: Habitat for the spectacled bear, pumas, Andean condors, and numerous endemic bird species.
Distance from Project Area: Roughly 80-160 km northwest.
Parque Nacional del Manu
Area: About 1,909,806 hectares.</td></tr>
</table>

	• Flora: Encompasses lowland tropical rainforests, cloud forests, and Andean grasslands with more than 4,000 plant species, including giant trees, ferns, and numerous epiphytes. • Fauna: One of the most biodiverse areas in the world, home to jaguars, giant otters, black caimans, over 1,000 bird species, and 200 mammal species. • Distance from Project Area: About 180-250 km north in a different ecological zone. Reserva Comunal Amarakaeri • Area: Approximately 402,335 hectares. • Flora: Lush Amazonian forests, featuring hardwood species, palms, and numerous medicinal plants used by indigenous communities. • Fauna: Hosts jaguars, giant anteaters, tapirs, harpy eagles, and many amphibians and reptiles unique to the Amazon basin. • Distance from Project Area: Approximately 160-180 km northeast in a different ecological zone. Given the location, altitudes, and diverse ecological zones of these protected areas—and especially considering the project area's limited and scattered layout, low stem density, and the mixed composition of pine and native species—the project will have no negative impact on these protected parks and reserves. On the contrary, the project will enhance biodiversity, serving as a sanctuary for migrating species and offering added ecological benefits to the nearby protected areas.

1.3 Land and Carbon Rights

The *Más Árboles* project is developed in collaboration with 35 farmers communities on communal lands in the department of Cuzco.

The Political Constitution of Peru recognises that Farmers Communities have legal existence and legal personality. Consequently, these communities enjoy autonomy in their organisation, communal work, use, and free disposal of their lands, as well as in their economic and administrative aspects, within the framework established by law. This legal existence is formalised through their registration with SUNARP.

Registration with SUNARP is of utmost importance, as it provides legal protection for their territories, preventing third parties from unlawfully taking possession of them. Once the communal territory is registered in the Public Registries, any community member or interested party can request a copy of the title that verifies the community's ownership of the communal territory it occupies. Additionally, SUNARP registers other vital aspects for the community, such as the election of representatives, statutes, judicial resolutions, and communal rounds. These registrations enhance the transparency and legitimacy of the decisions and internal organisation of the Farmers Communities.

To participate in the Project, the communities must have their property formally registered with the National Registry of Peru (by its acronym in Spanish SUNARP). This is now the case with all participating communities. Although the legal entity status and land ownership of all communities are duly registered, the registration of their boards of directors is often pending due to their election

cycle, which occurs every two years. Sembramos Prosperidad is actively supporting these communities throughout the process. The communities involved in the Más Árboles project are also recognised as "native" or indigenous communities, which entitles them to FPIC with respect to any activities affecting their lands.

Carbon capture is recognized as a forest service within the framework of forestry legislation, as established by the Regulation for Forest Management (RLFFS)[1]. With its design including pine plantations and native tree plantations, the *Más Árboles* project falls within the scope and restrictions outlined in Law No. 29763. The project proponent, *Sembramos Prosperidad*, will hold the rights to the carbon credits resulting from the project through project participation contracts with the communities.

The Ministry of the Environment (by its acronym in Spanish MINAM), in its capacity as an authority on climate change, has been implementing, among other tools, the National Registry of Mitigation Measures (by its acronym in Spanish RENAMI), which will serve, among others, to register the transfer of carbon credits for those projects that are linked to carbon markets. For that reason, any project must be registered with RENAMI once this registry is in force. MINAM is currently working on developing this registry.

As of yet, no regulations with regard to Peru's Nationally Determined Contributions are in place. Although MINAM is the National Authority on Climate Change, the rules for the use of forests are designed by SERFOR (Servicio Forestal y de Fauna Silvestre, by its acronym in Spanish SERFOR) and it is the Regional Government that implements and executes in the territory, under the supervision and guidance of SERFOR.

2 Stakeholder Engagement

2.1 Stakeholder Identification

The project has identified the following main stakeholder groups:

Organization	Main functions and / or activities in districts that are part of the project	Relationship	Stakeholder class
Civil society			
35 participating communities in the project (see Table 1)	• The beneficiaries of the project. • Active participation of each family in the project, participating in planting and nursery activities. • Provide the land for the planting activities.	*Strong collaboration and coordination relationships*.	Local stakeholders
Nearby communities that do not wish to participate in the project.	• Civil society not actively participating in the project, but having the right to know about its development and to express opinions on it.	*Strong collaboration and coordination relationships*.	Local stakeholders
Public institutions			

[1] Article 4 of Law No. 29763, the Forest and Wildlife Law (by its acronym in Spanish RLFFS).

Regional Government of Cuzco (GORE) – Cuzco - Subregión Paruro and Chumbivilcas	• Mitigation of climate change and carbon sequestration (reforestation). • Public awareness and education. • Forestry management • Land use planning: • Environmental monitoring and assessment	*Strong collaboration and coordination relationships* *Sembramos Prosperidad* is part of the Regional Environmental Commission (CAR) and the Regional Technical Table of Restoration of Cusco.	Secondary stakeholder
Ministerio de Cultura (*Ministry of Culture)*	• Identify, protect, and conserve monuments, archaeological sites, and cultural assets of historical and cultural significance to the country. • Disseminate and support cultural expressions and traditions of diverse ethnic and regional communities in Peru. • Foster programs and projects that strengthen cultural capacities, promote access to culture, and support sustainable development in the cultural sphere.	*Specific collaborative and coordinative relationships.* Member of the development of the Centennial Trees of Cusco project. In the districts, this responsibility falls under the purview of the Municipal Social Development Management, with whom close collaboration occurs. This collaboration is particularly crucial as, within the Pachamama Raymi methodology, various artistic expressions such as poetry, singing, music, crafts, dances, ancestral knowledge, and gastronomy are evaluated and rewarded. A cooperation agreement is currently being managed within the framework of the Más Árboles project with this institution.	Secondary stakeholder
Provincial Prosecutor's Office (*Fiscalía Provincial*) of Paruro and Chumbivilcas	• Sensitization and environmental education • Investigation of environmental crimes. • Environmental protection	*Strong collaboration and coordination relationships.*	Secondary stakeholder
Institute of Water and Environmental Management (IMA) (*Instituto de Manejo de Agua y Medio Ambiente*)	• Responsible for the integrated and sustainable management of water and environmental resources. Its functions include research, advisory services, policy development, training, monitoring, and project management, aimed at contributing to sustainable development and the protection of natural resources.	*Strong collaboration and coordination relationships*	Secondary stakeholder
Regional Agricultural Direction *(Dirección Regional Agraria)*	• Promotes and supports initiatives related to forest plantations within its jurisdiction.	*Strong collaboration and coordination relationships*.	Secondary stakeholder
Local Water Administration (ANA) – *(Autoridad Nacional del agua)*	• Conservation and protection of the quality of water resources. • Authorization of material extraction.	*Strong collaboration and coordination relationships*. In rural communities, the management and governance of the Sanitation Services Administration Board (JASS) are	Secondary stakeholder

	• Trainings with school children and students (water quality). • Reforestation project (Carambola and Bambú) with the government.	strengthened. Within the competitions using the Pachamama Raymi methodology, communities are evaluated and rewarded	
Provincial Municipality of Paruro y Chumbivilcas – Environment unit *(Subgerencia de Medio Ambiente – Municipalidad de Paruro y Chumbivilcas)*	• Supervises and controls compliance with current environmental regulations in the district, including those related to solid waste management, air and water pollution control, and the protection of natural areas and water resources.).	*Specific collaborative and coordinative relationships*	Secondary stakeholder
Ministry of Development and Social Inclusion (MIDIS) – *Ministerio de Desarrollo e Inclusión Social*	• Develop productive capacities and entrepreneurship, to increase and diversify sustainable autonomous income, in households in situations of poverty and extreme poverty. (MIDIS)	*Strong collaboration and coordination relationships*. Fondo de Cooperación para el Desarrollo Social (**Foncodes**) es un programa nacional del Ministerio de Desarrollo e Inclusión Social (Midis) Proyecto *Haku Wiñay.* The Cooperation Fund for Social Development (Foncodes) is a national program under the Ministry of Development and Social Inclusion (Midis) called the *Haku Wiñay* Project.	Secondary stakeholder
Ministry of Agriculture of Peru (*Ministerio de Desarrollo Agrario y Riego)*	• Promote rural agrarian development, through the financing of public investment projects in rural areas with a lower degree of economic development.	*Strong collaboration and coordination relationships*.	Secondary stakeholder
Institutional Management Office (Education Management local unit) (UGEL) (*Oficina de Gestión Institucional*) – *Paruro y Chumbivilcas*	• Promotion of projects of environmental education, risk management and interculturality. • Environmental awareness.	*Specific collaborative and coordinative relationships*	Secondary stakeholder
Academe			
Universidad Nacional Agraria La Molina	• Provide expertise and academic support for research projects. This includes conducting research, offering training, facilitating knowledge exchange, providing technical assistance, and fostering collaboration to address local challenges.	*Strong collaboration and coordination relationships.* There is a strategic collaboration agreement for research issues (2022).	Secondary stakeholder
Private Sector			
True Green (foundation)	• supports sustainable projects and initiatives in the areas of climate, nature, and living	*Partly pre-finances the Más Árboles project*	Secondary stakeholder

	conditions of the local population with funding.		
Center for the Development of Ayllu Peoples (CEDEP Ayllu) (*Centro para el Desarrollo de los Pueblos Ayllu*)	• Promotes territorial management within the watershed for Buen Vivir (Good Living).	*Strong collaboration and coordination relationships*.	Secondary stakeholder
Agricultural Bank (*Banco Agropecuario – Agrobanco)*	• Promotion, through credit offers, of agricultural and livestock development. • Technical assistance and training to the bank clients (fertilization, types of pruning, etc.).	*Specific collaborative and coordinative relationships*.	Secondary stakeholder

Other stakeholders

Sembramos Prosperidad have involved State entities and academics related to the project design and implementation. The communications have been formal and clear about the objective, scope of the project and the possibility of generating strategic alliances through agreements with some of them, due to the affinity of objectives between the organizations. The Project has been well received, as it is novel and pioneering in the region.

Since 2022 there has been a Framework Agreement for Inter-institutional Cooperation with the National Agrarian University *La Molina*. In the same way, a Letter of Understanding for Inter-institutional Cooperation was signed between the Andenes Cusco Agricultural Experimental Station (INIA) in 2022, a specific agreement for inter-institutional collaboration with PRORURAL (a development program or initiative focused on promoting rural development in Peru) in 2021 and a Framework Agreement for Inter-institutional Cooperation with the National Forest and Wildlife Service (SERFOR-2023). The objective of the cooperation with SERFOR is to establish the framework of mutual cooperation that enables the development and complementation of efforts, capacities, competencies and resources available to promote forest plantations for protection, restoration and commercial purposes. All this on lands owned by private owners, native and farmers communities in accordance with the provisions established in current forestry legislation and within the framework of the Determined National Commitments (NDCs).

There is an Inter-institutional Cooperation Agreement with the Association of Law Students of the Cusco Region. Its purpose is to establish an alliance that allows both institutions to provide academic, social, cultural and sports development to the union students of the Association of Law Students of the Cusco Region and to the farmers communities that participate in the projects of Pachamama Raymi and Sembramos Prosperidad. In particular, it involves support and peer learning for farmers communities in terms of their legal representation, land ownership, communal statutes, among others, which allows the communities to exercise their duties and rights. Most Law Students of the association have a background as children of farmers, some even in the districts of the project.

A Letter of Intent to sign a Framework Agreement for Inter-institutional Cooperation – currently in the process of legal review, has been signed (July 2024) with the National Institute of Civil Défense

(INDECI). Its purpose is to develop and support activities aimed at the prevention and control of forest fires, as well as other natural events.

A request for a strategic collaboration alliance between the Decentralized Directorate of Culture of Cusco – Ministry of Culture – has been proposed and is currently under evaluation. Its purpose is to jointly take the provisions for the protection of archaeological sites, Inca roads, customs and culture of the communities.

Table 1. List of all initially participating provinces, districts and communities of the Más Árboles project.

Community number	Region	Province	District	Community name
1	Cusco	Paruro	Accha	Amancay
2				Misanapata
3				Parco
4				Phocorohuay
5				Huyaino Aya
6				Sihuina
7			Ccapi	Cajapucara
8				Callancha
9				Ccoyabamba
10				Chocho
11				Huatta
12				Percca
13				Quehuayllo
14				Tucuyachi
15				Uyllullo
16				Incacona
17			Omacha	Antapallpa
18				Checcapucara
19				Hacca
20				Huillcuyo
21				Huillque
22				Omacha
23				Quille
24				Sahua sahua
25			Huanoquite	Rocoto
26				Queñaparo
27				Arabito*
28				Quenconay
29				Molle Molle
30				Chanca
31				Maska
32				Vilcabamba
33		Chumbivilcas	Ccapacmarca	Tahuay
34				Capacmarca
35				Cruzpampa

2.2 Project Coordination and Management

The Más Árboles project has four principal project partners:

- Pachamama Raymi and the communities – Project initiators
- Sembramos Prosperidad – Project coordinator/proponent
- Treevive – Project investor and service provider
- Form International – Technical support partner of Treevive

The project management team consists of president Mr. W. Van Immerzeel and his team from *Sembramos Prosperidad and Pachamama Raymi* (M. F. Varela Coll, R. Soledad Bustamante Mamani, C. Milla Vidal and R. Alvarez). The project Steering Committee consists of Mr. W. van Immerzeel, Mr. E. Schinkel from Form International, and mw. L. Gort from Treevive; who are all professionals with over 20 years of experience in the development and management of forestry projects and nature-based solutions in Latin America, Africa and Asia.

The following is a description of the project partners.

Pachamama Raymi

Pachamama Raymi (PMR) is a not-for-profit organisation that works with rural communities and families to enhance their living conditions and management of their natural resources in a sustainable manner. The methodology implemented by Pachamama Raymi and now Sembramos Prosperidad began in 1987, in the EU project PRODERM, and since then it has been improved in projects mainly of the EU and IFAD in Bolivia, Chile, Peru, Guatemala, among others.

Since the creation of the NGO Pachamama Raymi in 2008, it has executed projects in more than 300 rural and Indigenous communities in Peru, positively impacting more than 18,000 families, who have improved their homes, created productive businesses and have begun the recovery of their environment by planting millions of trees. The investment in Pachamama Raymi's projects has been estimated at more than 6 million dollars.

PMR together with the project participants, the 35 local communities, have initiated the Más Árboles project. As part of the project's initiation, a special purpose vehicle was created to serve as the project coordinator (proponent), leading to the establishment of Sembramos Prosperidad—a Civil Association that now fulfils this role for the Más Árboles project.

Sembramos Prosperidad

The project coordinator, i.e. the organisation that will take overall responsibility for the coordination and management of the project is *Sembramos Prosperidad,* a not-for-profit organisation that works with rural communities and families to improve their living conditions and sustainably manage their natural resources. Sembramos Prosperidad has access to the experience and team of Pachamama Raymi as required to implement the project by the alliance agreement that has been signed between them. Sembramos Prosperidad is the executive of the project and performs all technical, financial and operational management. Pachamama Raymi will be involved in quality control and the certification process.

A copy of the project coordinator's registration certificate is provided in Annex 2

Treevive

Treevive B.V. is a Dutch 'impact first' company that supports forest managers in developing sustainable forest carbon projects in accessing climate finance according to the highest integrity and sustainability standards by providing its partners with technical assistance, pre-finance & marketing, and sales services. Treevive and Sembramos Prosperidad have signed a Project Investments and Services Agreement which covers the cooperation between the Parties with the objective to realise the Más Árboles Project. Treevive has close collaboration with several family offices, grants providers, and public and private investors. This has led to concrete investments into forestry projects more than nearly 3 million USD in 2023 and 2024. Currently, Treevive has 12 projects under contract in various stages of development, of which the first are registered under Verra. The Mas Árboles project is the first project to be certified under the Plan Vivo standard.

Form International

Form International B.V. is a Dutch forestry consultation company that has been contracted by Treevive for the technical support for the *Más Árboles* project by *Sembramos Prosperidad*. Form International, with extensive experience since 1997, has managed large-scale reforestation and carbon certification projects—primarily in Africa—including FSC-certified plantations and VCS-validated projects in Ghana, Indonesia, and Nicaragua. Form International supports Sembramos Prosperidad with technical expertise, carbon measurement and reporting, annual reports, and coordination of validation and verification.

Since Form International is the PIN applicant but not the project coordinator, a signed statement from Sembramos Prosperidad confirming their full consent to the PIN submission is included in Annex 2.

Table 2.2 Responsibility for Project Coordination and Management Functions

Project Coordination and Management Function	Responsible Party/Parties
Stakeholder engagement during project development and implementation	Sembramos Prosperidad (SP)
Ensuring conformance with the Plan Vivo Carbon Standard (PV Climate)	SP and Treevive (TV) through Form International (FI)
Developing technical specifications, land management plans and project agreements with project participants	TV through FI (technical specifications) and SP (land management

	plans and project agreements)
Ensuring that the PDD is updated with any changes to the project	SP and TV through FI
Registration and recording of land management plans, project agreements, monitoring results, and sales agreements	SP
Managing project finances and dispersal of income to project participants as described by the benefit sharing mechanism	SP
Managing Plan Vivo Certificates in the Plan Vivo Registry	TV+SP
Preparing annual reports and coordinating validation and verification events	TV through FI
Securing certificate sales and other means of funding the project	TV + SP
Assisting Project Participants to secure any legal or regulatory permissions required to carry out the project	SP
Providing technical assistance and capacity building required for project participants to implement project interventions	SP
Monitoring progress indicators, livelihood indicators and ecosystem indicators and providing ongoing support to project participants	SP
Measurement, reporting and verification of carbon benefits	SP and TV through FI

2.3 Project Participants

The Project participants are the 35 rural communities located in one of the 5 districts in which the project is situated. Each community has on average 51 families, and 128 people, with communities ranging from 18 to 501 inhabitants. In the 35 participating communities, all 4439 families are involved in the project.

According to the information available in the communities' communal and electoral registers, the participating families are represented by a head of family, of which 1,082 are female heads of family and 3,357 are male heads of family. The communities contain at least 366 elderly individuals, though some data is missing for certain communities (see table 3 below). At district level, the head of the household is a woman in 25% of the families in Ccapacmarca, in 26% of the families in Accha, in 26% of the families in Ccapi, in 19% of the families in Huanoquite and in 23% of the families in Omacha. This information is retrieved from the Municipal and Electoral Registers. It is important to note that this data will probably change in December or January, because the communities are in the process of changing legal entities, which implies updating the registers of registered residents.

In April 2024, a socio-economic study was performed in the 35 participating communities in the five districts within the provinces of Chumbivilcas and Paruro, Cusco. Part of a broader social and environmental assessment was a survey, for which 448 families were interviewed. The sample represents 20% of the families participating in the Más Árboles project.

Of the interviewed people, 65.2% were women and 34.8% were men. Only 26.2% has finalized their secondary school, while 12.1% has no level of education. 60.7% of the interviewees lives together with a partner, while 22.3% are women living alone and 13% are men living alone. The number of families with a disabled member—whether with mobility (5.3%), vision (4.4%), hearing (2.5%), intellectual (1.4%) or other disabilities (3.5%)—is known for this sample, totalling to 74 families.

More data and results from this survey can be found in the socio-economic study.

All communities have some small areas of irrigated land. This is typically used to grow crops. Fertility is low, in spite of the fact that animal dung is used and therefore the productivity of this land is also low. For example, potatoes produce only 3 to 8 t/ha.

Community decision making

The governing bodies of the Farmers Community[2] are:

a) The General Assembly;
b) The Community Board; and
c) The Specialized Committees by activity

The General Assembly is the supreme body of the Community. Its directors and community representatives are periodically elected by personal, equal, free, secret, and compulsory vote, according to the procedures, requirements, and conditions established by the Statute of each Community.

The Community Board is the legally recognized body responsible for the governance and administration of the Community consisting of seven members (including at least one woman by law); it consists of a President, Vice President, and at least five Directors. There is no traditional representative system. instead, leadership structures organize and channel collective decisions. Every

[2] General Law of Farmers Communities (Law No. 24656) Article 16, 17 and 19

community, regardless of size—from Choco (19 members) to Sahua Sahua (250+ members)—must have such seven-member board. Communities are free to organize internally (e.g., by annexes or neighbourhoods) based on their specific needs and dynamics.

The procedure is organized and led by the electoral committee. Members of the Community Board must be registered community members. Each one can propose themselves for the position they wish to fulfil or can be proposed by members of the Assembly. They are elected in the general assembly by a simple majority of votes and represent their community in formal acts inside and outside the community.

Every two years, the Community Board changes. To legally perform their function, they must be properly registered with the National Superintendence of Public Registries (SUNARP). For this, the electoral committee and the elected board members must present themselves to SUNARP. It is common for this registration to either not be done or not be done on time. Sembramos Prosperidad will support the correct and timely registration of the new board. By doing so, Sembramos Prosperidad ensures that the new boards are legally representative of the entire community.

Decision-making is democratic: all registered community members have an equal vote, and final decisions are made in communal assemblies. Community boards and committee leaders coordinate and facilitate, but do not make decisions independently.

The Project's foundations are based on the recognition of the rights of Farming Communities and their organizational structure for decision-making. The project includes community proposals, as evidenced by the communities' own development of their plan vivos (referred to as *planes comunales*).

The Más Árboles project is subject to the provisions of the Communal Authority in all its forms. Sembramos Prosperidad has close and trusting relationships with the communities and confidently present proposals beneficial to them. Since the beginning of the Project, an open and participatory communication process has been implemented in each farming community during their General and Extraordinary Assemblies. This has been carefully documented since 2023.

Any proposal from Sembramos Prosperidad requires the consideration of community opinions and making mutually beneficial adjustments. If a community disagrees, their decision is respected and final.

2.4 Participatory Design

Participatory process

The Pachamama Raymi methodology aims to create communities of protagonists.

The initial interactions with the communities are mostly through written communications. Such communication is presented to the Communal Board requesting a spot on the agenda of the Communal Assembly (usually held at the end of each month) to inform the entire community about the project or a project aspect. If the Communal Board grants Sembramos Prosperidad the agenda spot, the Más Árboles District Coordinator is given access to the meeting to explain the project and request the formation of a working team for the project. The request is immediately either approved or rejected, during the assembly.[3] If approved, working team responsibilities are assigned among the participants, dates are coordinated for the work, and results (intended project type and benefits) are presented at the next Assembly for approval or disapproval of the whole community. The same mechanism is valid for influencing the evolution of interventions in the course of Project implementation, based on annual evaluations.

For the community members to influence and impact the project design and implementation in a relevant way, a process has been designed that inspires, motivates and offers ideas, knowledge and skills that enable communities to decide themselves if and with which interventions they aspire to overcome poverty.

Generating motivation is an essential part of the Pachamama Raymi methodology. To this end, Pachamama Raymi and now Sembramos Prosperidad organize exchanges during which participants can interact with farmers who suffered poverty, but who overcame this condition, managing their resources, their health, etc. in a different way. Best practices which worked in similar environments or communities leading to resource recovery and increased productivity, highlighting proven approaches for the ecosystem and people's prosperity are presented, explained in detail and shown in practice during exchange trips. The main goal of these exchanges is to change the way people think about their own situation. It is a change in mindset. This peer learning is contagious and "infects" the entire community with optimism and motivation.

During these trips, exchanges or 'internships', people can learn best practices from their peers. Subsequently, they are discussed based on so-called "mapas parlantes", or "talking maps" within their own communities. Talking maps are maps created collectively by community members to represent their territory, resources, traditions, land use, and challenges. The maps are drawn by hand on paper or on a wall and include symbols, drawings and narratives that visually express the local knowledge and vision they have for the future communally. The community members who create them explain them aloud. This process allows for storytelling, discussion, and decision-making, and has proven to be a powerful tool for territorial planning, environmental management, and cultural preservation.

[3] Decisions are recorded in their Communal Minutes Book and/or the meeting minutes of Sembramos Prosperidad. This same procedure is applied to every project aspect or proposal, such as the zoning of areas, Social Study, Flora and Fauna Study, Carbon Baseline Study.

Figure 1. An example of a talking map.

It can be seen as a beauty contest of various possible interventions such as irrigated fodder production, productive fallow, variation in animals held, building a bridge, planting trees, constructing a drinking water system etc. The various management practices are evaluated or graded, as shown in Figure 13. The individuals who perform these evaluations are selected by the community during a general assembly and are referred to as "jury members." This group of jury members conducts the evaluations, and from among their peers, they choose those who will carry out the actual grading process. At the end, the community decides by voting which interventions have their preference, which should be discarded and which should be adjusted to their local needs and wishes.

In the Más Árboles project, several interventions—such as irrigated fodder production, productive fallows, guinea pig farming, and tree planting—have been adopted and adjusted through peer learning from earlier projects. At the same time, the project introduces a number of design changes driven by the communities themselves. These changes reflect the unique priorities and contexts of each community. Even within the Más Árboles project, differences in project design can be seen from one community to another, highlighting both the participatory nature of the approach and the autonomy communities have in shaping their own activities.

Another opportunity to bring about change in thinking is engagement with Sembramos Prosperidad field staff, who are former farmers who excelled in their communities themselves. This mindset change is essential to enable the community participants to be protagonists of their own development and thus of the project. It allows them to obtain valuable input and make substantiated decisions on the project interventions to be included in their community project design.

Each community evaluates their project communally every year, where each community member will vote again on activities to include in their project design. The participatory approach is visualized in the figure below.

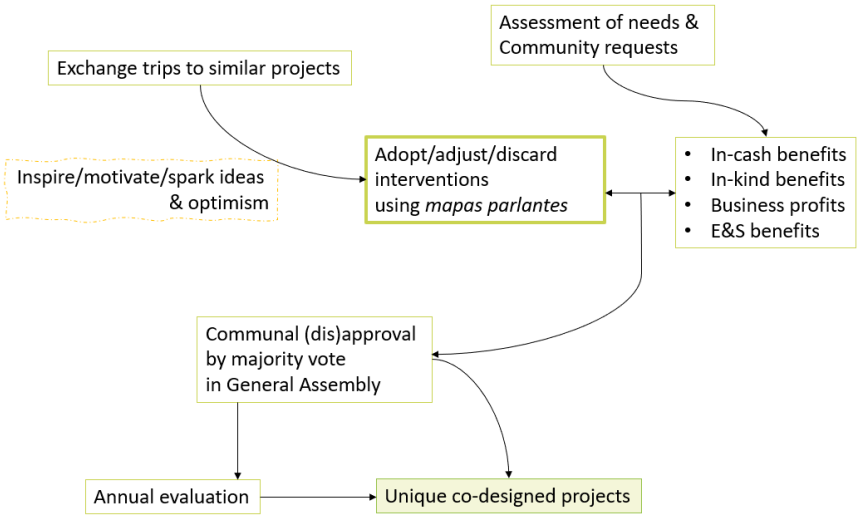


Figure 2. A visual representation of the participatory approach as applied by Sembramos Prosperidad.

The following are concrete examples of community inputs and decisions (aside from selecting preferred land management practices for the Project for their community)[4]:

- Some communities visited the Granja Porcón farm during an exchange visit, meant to show/inspire/motivate people (peer learning). Here, they could see many potential interventions, i.e., pine plantations, mushroom production, jersey cows raising, trout hatchery, raspberry production, tourism, etc. Many of these interventions were adjusted, others were not adopted by communities in the Más Árboles project. For example, instead of jersey cows, some communities decided to start raising alpacas or guinea pigs. In addition, Granja Porcón has a cooperative model, Más Árboles communities chose to maintain their communal organization.
- Communities decide on the exact planting location of the pine trees. Decisions are made during the general assemblies, after which SP assists the communities in georeferencing the selected areas.
- The communities are free to decide whether, when or what they plant. While SP initially planned to start seedling production in April-May (according to a Chilean production methodology), some communities have decided to advance this to November, leading to more robust plants. The Ccoyabamba community decided not to plant this year, due to lack of time. They also requested to plant native species like queuñas and qolles around some of their waterbodies. Similarly, some communities have requested local government support for planting fruit trees[5] in and around their villages, in which SP plays a supporting role.
- Many families choose to plant as a family in addition to communal plantations, e.g., planting pine trees as living fences around their agricultural plots and water sources.

[4] Each documented in official Acts and General assembly meeting minutes. As an example the meeting minutes of the drafting of the communal plan in the community of Huillcuyo, Omacha are attached to this PIN.
[5] Communities need support from local governments to develop fruit production businesses. Within the framework of the agreement between Pachamama Raymi and local governments, SP seeks to represent these requests for support with fruit production. As a result, the municipal governments of Ccapi and Ccapacmarca included fruit trees in their programs for the 2024-2025 campaign.

- Whether or not to establish a nursery in its jurisdiction and who is employed in the nursery[67];
- The protection of remaining forest patches; communities are aware of their importance for environmental health, and request their protection to be part of the project design.
- PMR payment for land and water use at the nurseries.

Based on their good experiences with PMR in previous projects, all communities requested the inclusion of support in the areas of health, resource management, starting and managing businesses to improve their income, among other elements. Another requested was for exchange trips (internships) to successful families, communities and organizations, including the Granja Porcón project in Cajamarca. PMR has honoured these requests insofar as possible within their budget.

It does not stop at the design: Communities have established their own monitoring systems for tree care, such as organized patrols where all community members take turns checking for damage every three days, placing fences, confiscation of animals, protection with livestock nets, protection in times of drought by irrigating or covering with ichu and stones to maintain humidity. Also, each community has established its own system of fines for cases where livestock damage young trees. These are all community decisions, nothing has been enforced by SP.

After approval of the benefit sharing mechanism in general and the in kind-benefits in specific by means of the same participatory approach, collaboration agreements are signed with the communities.

Figure 133. Jury members grading management practices

[6] Community of Omacha – Antayaje: In 2023, the community, through a formal act, decided to allocate a space for the establishment of a tree nursery. After it was set up, a small group proposed using that same space for an alternative purpose. To do this, a general assembly was called to decide to keep the nursery or use the space for the alternative purpose. The majority voted in favor of keeping the nursery, since it generates employment, including the vulnerable population such as the elderly.

[7] Community of Quehuayllo: The members of the community, in a general assembly and registered in their communal act, decided to establish a nursery as a source of employment for all. The communal agreement establishes that all members will have the right to access employment in the nursery through a rotation system, and that women, men, young people and older adults will be able to participate.

2.5 FPIC Process

FPIC Protocol (overlaps with the participatory approach):

Phase 1 – Information provision

The FPIC process starts with the provision of information. Physical information material is prepared in a simple and relevant format. The format consists of a diptych or triptych, which contains simple and concrete information. This information will be written in Quechua and Spanish and graphics will also be included for better understanding. It's worth noting that more than 90% of community members are Quechua speakers. Therefore, field coordinators are fluent in Quechua and adept at explaining project developments in that language. Additionally, there is a high illiteracy rate. State reports reveal that approximately 25% of the population in the communities is illiterate (INEI, 2017), and it is higher among women. All of this makes it necessary to use visual aids such as drawings and graphics in printed materials to ensure easy comprehension. The printed material will contain the following information:

Objective of the project

- Concrete actions of the project
- Specific locations
- Duration and stages
- Actors who are going to develop the project
- *Sembramos Prosperidad's* concrete commitments
- Concrete community commitments
- Specific commitments of each participating family
- Benefits and distribution of benefits (short, medium and long term)

The distribution of the information material is done before the development of the project. The local project coordinator delivers the material in person to each community as follows:

- Directly to a member of each family present during the coordinator visit. This person must put a signature or a fingerprint and their national identity document number on a list that contains all families in the community as proof of receipt.
- Directly to a director of the community's board of directors, who will deliver the material to the families that are absent at that moment. The manager must sign a statement of delivery that indicates 1) the quantity of physical material to deliver and 2) the commitment of the person to deliver the material in person before the project exhibition meeting.

This process takes place between 7 and 5 days before phase 2. The proposed times (days) are in reality more flexible, taking into consideration the dynamics and frequency of meetings of the communities and the distances between them. The family signature list and statements of delivery form the auditable evidence of this phase, optionally complemented with photographic records of this phase.

Phase 2 – Presentation and face-to-face feedback

The project is presented by the local project coordinator during the Community Assembly where all community members can participate. Feedback is collected in person on the information previously provided. The call for the meeting is made through the communication mechanisms of each community itself and through a physical poster in a visible place in the communities. Likewise, free

access to the assembly must be guaranteed for all people in the community, regardless of gender, race, social class, religion, etc. A PowerPoint presentation is presented, containing the information from phase 1, explained in Quechua language, accompanied by a Spanish translator. The presentation includes graphics and images. The presentation is followed by the opportunity for 1-2 hours of feedback, doubts and questions, expectations and concerns. During this time, groups of 3-5 people are formed and asked to answer graphically on a flipchart 1) what excites/motivates them mostly about the project, 2) what worries them mostly about the project or what they find most difficult to implement and 3) how they envision the community at the end of the project. The results are shared in the plenary meeting afterwards. Finally, information is shared about the follow-up process.

The Assembly ends with the signing of Assembly Minutes, where community members are free to indicate that they have or have not received prior and complete information about the project, in person. The information that has been received is included in the Minutes. Moreover, they can indicate that they show interest in and accept the carrying out of the project in their community and that they are committed to developing the project. As the Community Board of Directors is the entity who legally represents the community members (see section 2.4 Participatory Design), the approval of the project as determined during the Assembly will be officially affirmed by them. All highly relevant decisions such as signing a long-range agreement are made in a General Assembly. As all decisions are recorded in its Minutes book, including the, for this situation specific, delegation to the Board of Directors to sign an agreement between the community and Sembramos Prosperidad, it is guaranteed that the Board follows the will of the community. The board of directors of a community (President, vice-President, Secretary, Treasurer) is chosen every two years by the community. The members of the board must be formally recognized members of the community. The elections are organized and supervised by the election committee, also composed of members of the community. The election of the board members is done during a general assembly.

Once the board is elected and formally registered, the general assembly may decide to delegate to them the power to sign agreements (which were approved by the assembly) with institutions – for example. Such a delegation is needed to facilitate negotiations or sign agreements with entities that are not part of the community. The community decides most matters by a majority of votes. Signing PES agreements with individual members of the community may damage the unity of the community as a whole. It must also be considered that any agreement with outside agencies about land use (for example about tree plantations) must be signed with the formal landowner. The farmers communities are the only legal owner of their land.

The communities are the participants in the Más Árboles project. They are the joint owners of the land and therefore there will be agreements with each of the 35 participating communities. As land ownership is communal (part of the territory can be given in usufruct for families according to the community's own internal rules), no individual agreements will be made with families (over 4000 families participate in the project). This process takes place between 10 and 7 days prior to phase 3. The proposed times (days) are in reality more flexible, taking into consideration the dynamics and frequency of meetings of the communities and the distances between them. The Minutes of the Assembly with signatures and names of all participants serve as the auditable evidence of this phase, complemented by photographic records of the call poster and the meeting and all the queries and suggestions of the community in written form.

Phase 3 – Project Feedback

This phase is reserved for receiving additional contributions, doubts and questions about the project. For this purpose, two mechanisms have been developed:

1. Virtual feedback

Feedback will be collected via WhatsApp, through the distribution of the telephone number of the relevant local project coordinator. They answer doubts and questions by phone, and receive contributions to the project, assuring that these will be considered.

2. Face-to-face feedback

Feedback will also be collected through the continuous face-to-face reception of feedback at the central office of *Pachamama Raymi* in the city of Cusco, the capital of the region. The organization sets a completion schedule and assigns an employee with project information management to be able to receive feedback, questions or suggestions in person.

Both possible mechanisms are distributed through a poster in a visible place in each community, showing the objective of this phase, the relevant phone number(s), the address of the *Pachamama Raymi* office in Cusco and the time slots for the reception of face-to-face feedback.

All feedback will be recorded through systemization sheets containing the participant's name, community and feedback, question or contribution. This phase has a duration of a minimum 15 days starting from the end of phase 2. The proposed times (days) are in reality more flexible, taking into consideration the dynamics and frequency of meetings of the communities and the distances between them. The systemization sheets and photographic records of the information poster and WhatsApp messages serve as auditable evidence of this phase.

Phase 4 – signing of the Agreement

During this phase, the agreements between each of the communities and *Sembramos Prosperidad* are signed, where both parties agree to develop the project and assume commitments from each other. Each final agreement is signed by the community's board of directors and *Sembramos Prosperidad.*

The agreement contains:

- The recognition of a **free, prior and informed consent process**, which included the prior delivery of project information and feedback with face-to-face and virtual mechanisms
- The consent given by the community for the realization of the project with specifically agreed interventions, services and benefits
- The clear and specific information provided in phase 1

Each party will receive a copy of the agreement, which is signed preferably within 7 days after the termination of phase 3.

The proposed times (days) are in reality more flexible, taking into consideration the dynamics and frequency of meetings of the communities and the distances between them. In addition to the physical agreements, photographic records of the signing of the agreements serve as the auditable evidence of this phase.

2.6 Grievance procedure

Sembramos Prosperidad has a Grievance Mechanism in place, enabling the reception of complaints from individuals, families and communities about the project and the consideration of these for

project modifications. This Grievance Mechanism is based on the same mechanisms as described in phase 3 of the FPIC process.

Sembramos Prosperidad maintains a continuous presence across all five project districts, with a coordinator and at least two expert farmers stationed in each district. Offices are strategically located—one each in Accha, Ccapacmarca, Huanoquite, and Omacha, and two in Ccapi—for accessibility and smooth coordination with local governments.

Each coordinator resides in their district for at least 24 days per month, maintaining regular, direct contact with both community members and municipal authorities. Two supervisors also live within the project area, overseeing all districts.

Community members, including local authorities, frequently visit the central office in Cusco. Each district team has organized structures to ensure ongoing consultation and follow-up with the community. Field staff schedules are carefully managed to guarantee that at least one team member is always present. Informal interactions with community members occur daily, and formal meetings with authorities take place at least monthly. This open communication allows the community members and the project staff to have a continuous exchange of project information and potential grievances.

3 Project Design

3.1 Baseline Scenario

Historically, the Andean soils were deep, fertile, rich in organic matter, and highly permeable. Over time, they have become sterile, lacking organic matter, hard, and almost impermeable: The extensive dryland slopes of the farmers communities in the Andes have been subjected to degradation and even erosion for many centuries. Erosion represents the final stage of regressive succession to which these lands were exposed. According to data from the Atlas of Soil Erosion by Hydrological Regions of Peru (Rojas et al., 2017), 90% of the Andes' surface is affected by moderate to severe erosion.

The extensive regressive succession has led to many plant species being listed as endangered. The same fate has befallen animal species such as the yellow-tailed woolly monkey (*Oreonax flavicauda*), the Andean cat (*Leopardus jacobita*), the spectacled bear (*Tremarctos ornatus*), and many others. Today, only a few small and fragmented areas with native climax vegetation remain in the Andes, such as Choquequirao (in Cusco), the Ampay (in Abancay, Apurímac), Kuélap, Chachapoyas, Amazonas, and the Gran Pajatén (in San Martin).

The present-day natural recovery of these forests is limited due to various local factors, such as an insufficient microclimate; low temperatures, shallow soils, and insufficient humidity, as the present mountain slopes are bare and at the mercy of the elements.

A continuation of the pre-project land use and management would imply the continuation of land use as high Andean pastures in the process of degradation. The already degraded highlands with grassy vegetation will continue to be burned and utilized for extensive grazing and sporadic low-yield agriculture perpetuating the cycle of soil and biodiversity degradation. Under such conditions, progressive (or secondary) succession is not possible. The current grassy lands will not present an increase in their carbon stocks over time, since it is an ecosystem in the process of degradation and soil erosion. Implementing forest plantations with native understorey, complemented with restoration of riparian zones, would improve the microclimate and soil stability of these areas, enhancing resilience against the above effects. Moreover, the restoration of native and pine forests would improve water availability, providing better tools to mitigate the impacts of climate. This

paragraph has outlined the severe impact of regressive succession on biodiversity. To recover biodiversity, it is essential to restore the soils and their vegetation cover.

The current situation in detail

The intervention area is characterized by one ecoregion, the Puna ecoregion. This ecoregion extends along the Andean mountain range, on average from 3800 meters above sea level to 5200 meters above sea level, with an average annual temperature of 6°C. The winds are cold and dry, and the region experiences an average of 700 mm of annual precipitation (Brack and Mendiola, 2004). The terrain is varied, with plateaus and rolling areas, and the soils are predominantly andosols and paramosols (Brack, 1986; Brack and Mendiola, 2004). In the Puna, the predominant vegetation formations are grasslands, shrublands, semi-deserts, cushion plant formations and scarce queñua forest relicts (Brack and Mendiola, 2004). The grasslands are characterized by the dominance of grasses of various species (Stipa and Festuca). The queñua forests are composed of queñua trees (Polylepis) and colli trees (Buddleia) (Brack and Mendiola, 2004). High Andean shrublands are common in the Puna, and in the central and southern regions of Peru, they are dominated by a thorny dwarf shrub Tetraglochin strictum, which grows on sandy and rocky soils. In rocky areas, mixed vegetation of shrubs, cacti, and grasses grows (Brack and Mendiola, 2004). High Andean semi-deserts are drier, and near the permanent snow line, there are temperature fluctuations of up to 56°C between day and night. Cushion plants which dominate Andean wetlands (bofedales), are found at elevations above 4000 meters (Brack and Mendiola, 2004). As can be seen in the Google Earth file (see link below), there are trees and shrubs well over 4000 meters above sea level (see the red spot in the centre of the image):

https://www.google.com/maps/d/u/2/edit?mid=1-nUfNA2WuKdhxN8ttSrFP_WoZfmOxtE&usp=sharing

Current Land Use in the Intervention Area

The intervention area contains mostly grasslands (Pajonal andino, 49.3%), shrublands (Matorral arbustivo, 47.9%), forest relicts (1.5%) and wetlands (Bofedales, 1.3%). In healthy state, these vegetation covers are crucial in providing ecosystem services in a region marked by an intense rainy season followed by several months of drought. The wetlands, Andean grasslands and shrublands, in particular, used to be essential for water retention during the rainy season and for providing this vital resource during the dry months (Tovar Narváez, 2018). The Andean grasslands and shrublands also used to be an important source of forage for livestock activities, mainly for South American camelids and sheep farming (MINAM, 2015).

However, many areas are undergoing degradation due to current land use practices such as overgrazing, periodic burning to increase agricultural and forage productivity and quality and the excessive exploitation of shrubs and other plants for use as fuel (Sarmiento & Frolich, 2002; Bradley & Millington, 2006; Catorci et al. 2014; Cossios, 2018).

These are ancestral practices passed down through generations since pre-Hispanic times (Duchicela Sisimac et al., 2024). However, it is important to note that before the arrival of the Spanish, the animals grazing in these ecosystems were native South American camelids (llama, alpaca, guanaco, and vicuña). After colonization, livestock such as cattle, sheep, goats, and horses were introduced, and the ecosystem was not equipped to handle the intensified impact of these animals, particularly their hooves, which cause significantly more damage than those of camelids (Bautista Teresa, 2021). This way of livestock farming has significantly compacted the soil due to the loss of soil structure and the weight of the animals, reducing the ability of vegetation to regenerate naturally and affecting the soil's porosity and water infiltration capacity (SEIA, 2024).

Moreover, the periodic burning is most often linked to agricultural practices and although these fires are carried out in a supposedly controlled manner, they regularly get out of control. This affects not only grasslands and shrubs but also nearby forest remnants, causing significant biodiversity impacts and forcing species to migrate due to habitat disturbances (Roman et al., 2011).

Due to this unsustainable land use, a gradual sequence of degradation is being observed over time. Typically, the physical properties of the land are affected first, followed by biological aspects, and eventually, if no intervention takes place, chemical properties also begin to degrade:

1. Physical degradation. In the intervention area, the pastures show a high level of soil compaction due to loss of soil structure and intensive grazing. This compaction prevents proper water infiltration, reduces the space available for roots, and limits plant growth. This creates a vicious cycle where soils become less productive and increasingly difficult to restore.

2. Biological degradation. Additionally, flora and fauna studies and biodiversity assessments performed in the intervention area indicate that many species are losing prominence, or while overall biodiversity seems high, the frequency of species is low. This indicates that biological degradation is already occurring in the intervention area, driven by recurrent fires that suppress soil biological activity and disrupt natural regeneration processes, along with overgrazing that limits regeneration and threatens plant species diversity. A biologically degraded ecosystem loses its ability to regenerate and maintain functionality, impacting both productivity and ecosystem services.

3. Chemical degradation. Although recent soil studies indicate that the soils in the intervention area still contain significant organic matter, they are very limitedly fertile. This low fertility is primarily due to the loss of potassium, which, being highly soluble, leads to a nutritional imbalance that affects soil microorganisms. The decline of these microorganisms leaves the organic matter nutrient-poor. Additionally, nutrients are lost due to the effects of altitude. Intensive soil use through overgrazing without sufficient recovery time further depletes nutrients, causing an overall decline in soil fertility, increased acidity, and accelerating chemical erosion. Increased acidity activates the toxicity of aluminium, which explains the low agricultural productivity. Decreased native vegetation further degrades soil fertility, as the presence of these species, which have adapted to grow in soils with slow nutrient release, contribute to biological activity and organic matter turnover.

Effects of Degradation

Thus, the current land use is significantly contributing to the degradation of the natural capital. According to the latest data from the National Meteorology and Hydrology Service (SENAMHI), 97-100% of intervention area is undergoing moderate to very high erosion, which is the last step of the degradation process, drastically reducing its ability to fulfil its role as key provider of ecosystem services, such as water regulation and biodiversity maintenance. Furthermore, these degraded areas are becoming less valuable to the communities, as they are increasingly unproductive for growing

fodder and crops, which threatens the livelihoods of the residents. The diminishing ecosystem services once offered by healthy natural ecosystems include (Bonnesoeur et al., 2019):

1. Climate regulation: Vegetation in the original ecosystems acts as a carbon sink, helping to mitigate climate change by storing carbon in biomass and soil.

2. Erosion control: Plant roots help stabilize the soil and prevent erosion. Soil degradation generates erosion, which leads to further loss of soil fertility and increased risk of landslides.

3. Biodiversity conservation: the original ecosystems are habitats for a great variety of species. Their conversion to degraded vegetation cover and soils leads to the loss of biodiversity and the extinction of animal and plant species.

4. Water cycle regulation: Healthy ecosystems regulate the water cycle, facilitating infiltration and aquifer recharge. Soil degradation can affect water quality, infiltration and availability. Reduced infiltration will lead to more surface runoff, diminishing river baseflows and drying up streams while occasionally resulting in high peak flows leading to inundations and floods.

5. Provision of food and resources: Degradation reduce soil fertility and therefore agricultural productivity.

Apart from highly unproductive crop cultivation and livestock, the participating communities report reduced water flow from springs, with some springs disappearing entirely. Moreover, during the rainy season, small streams and rivers are heavily laden with erosion materials, primarily due to sheet erosion, which is characteristic of degraded soils. This highlights the need for change.

3.2 Livelihood Baseline

The analysis of the livelihoods of vulnerable populations in our project is based on the Sustainable Livelihood Framework (SLF), developed by the Department for International Development (DFID) in 1990 (Narula et al., 2017). The assets of the Livelihoods Framework are described below, along with how they will change with the implementation of the project.

1. Human capital (H) refers to the skills, knowledge, ability to work, health, and physical fitness that, together, enable individuals to pursue different strategies to ensure their livelihoods.

Currently, the 5 districts participating in the project have an average population of 4381 inhabitants, of which 50.4% are men and 49.6% are women, according to official data sources. The most significant demographic group consists of adults aged 30 to 44, accounting for approximately 18.5% of the total population, followed by the group aged 45 to 69, which represents around 16.9%. Adults over 70 years old make up approximately 14.2% of the population. Additionally, 57% of the population has completed secondary education, 2.3% have technical education, and a yet undetermined percentage holds a university degree (INEI, 2017). The majority of working-age residents are engaged in agricultural activities, small animal husbandry, and livestock farming, with a minority involved in forestry activities. Child malnutrition rates reported by the government are at 19% in children under 5 years old with chronic malnutrition, and a Human Development Index (HDI) fluctuating between 0.18 and 0.25 has been recorded in these communities, along with a Vulnerability Index to Food Insecurity (IVIA) ranging from 0.70 to 0.81 in different communities (CEPLAN, 2022).

The project aims to strengthen capacities in the management of forest plantations, covering tasks such as nursery work, plot selection, plantation implementation, and monitoring. These activities do not occur in the baseline scenario, as forest plantations are not a typical land use. However, Pachamama Raymi has conducted smaller, short-term forest plantation projects in some of the project

districts. Therefore, in some communities, these activities have taken place previously and can be considered baseline scenario activities.

2. Physical capital (P) refers to the basic infrastructure that people need to earn a living, as well as the tools and equipment they use. For example, transportation and communication systems, housing, water and sanitation systems, and energy.

In terms of basic infrastructure in the project's participating districts, state data reveals that, on average, around 33% of the population lacks electricity, while 35% do not have access to public sewerage. However, 80% of the population does have access to potable water through the public household network. Regarding access to information and communication technologies, over 99% of households lack access to the internet and cable television, although 40% own a cell phone, with no one having a landline. As for household fuel access, 24% have access to gas, while 76% use polluting fuels (INEI,2017). Existing sewerage systems usually lack wastewater treatment, polluting rivers. High on people's wish list are potable water and electricity in communities where these services are lacking. Access to phone and internet services is spotty but can often be obtained by simply walking uphill.

While the Project will not directly produce changes in the physical capital of the districts, the economic growth in the area will drive increased demand to both the regional and central governments to achieve improvements in the infrastructure of these districts. Moreover, the project motivates families and communities to improve their basic infrastructure. This basic infrastructure includes housing improvement, improvement of basic elements of their businesses (such as guinea pig sheds and irrigated forage) and communal improvement of potable water management.

3. Natural capital (N) encompasses natural resources such as soil, water, air, and genetic resources, as well as environmental services like the hydrological cycle and pollution absorption.

Currently, the natural capital in the area where the project will take place is characterized by severely degraded grasslands and almost complete loss of native forests. As outlined in section 3.3 Ecosystem baseline, forested life zones naturally occur in the project area, but have been reduced to small relict forest patches in hard-to-reach areas. This has resulted in a significant decrease in biodiversity and water scarcity due to soil degradation in the high areas of the watershed. However, the project has the potential to significantly improve natural capital.

4. The economic or financial capital (F) represents the foundation of capital (cash, credit/debt, savings, and other economic assets, including basic infrastructure, equipment, and production technologies) that are essential for achieving any livelihood strategy.

According to statistics from the Peruvian government, the populations participating in the project exhibit a 46% poverty rate and a 17% extreme poverty rate. In this regard, the Peruvian government sets an income of 8.20 Peruvian soles per person per day as the extreme poverty line, while those exceeding this threshold are classified as non-poor, with an income of 13.20 Peruvian soles (3.3 euros) (CEPLAN, 2022). The size of the land varies (greatly) between communities, ranging from 520 hectares to over 8,800 hectares. People engage in agricultural activities, small animal husbandry, and livestock farming, with a minority involved in forestry activities. Agricultural activity is primarily small-scale or artisanal, employing traditional methods and without heavy machinery such as tractors. Most agricultural cultivation is centred around people's homes, where irrigation is usually available. However, the productivity of these areas is generally very low due to a lack of methods to maintain soil fertility

The average property size for each family is around 3 hectares of arable land and about 20 hectares of pasture, with larger grassland areas under the direct control of the communities (used for very extensive grazing and very limited for cultivation with long fallow periods). The tradition of dividing land equally among children has led to the fragmentation of family farms. This has had serious consequences for the ability of these "mini farms" to sustain a family, with areas ranging from a quarter to half a hectare, plus the additional spaces and costs of access roads and irrigation distribution. Access has also become more difficult, and the impact of technological innovation has become irrelevant as the parcel size diminishes. This inability to sustain a family has driven emigration, resulting in another negative effect: the emigrant siblings, known as "residents," follow the so-called "al partir" or "mitayo" scheme, where the sibling who stays to farm the land must give half of the harvest to the emigrant sibling. This disadvantages the sibling who remains, working the land. However, some innovations in crops and agronomic management (such as the use of greenhouses, piped irrigation, and most importantly: productive irrigated fallow, among others) could help mitigate this problem, along with improving the entrepreneurial skills of the population and their knowledge of the market and sales. Therefore, Sembramos Prosperidad can offer participating families the opportunity to rise out of poverty without altering the size of their farms.

5. The social capital (S) consists of social resources such as social relationships, affiliations, and associations that individuals rely on when pursuing different livelihood strategies.

Overall, the populations participating in the project possess a solid social capital. Communities are well-organized with an established structure supported by clear regulations. Citizen participation in decision-making is evident, and all families respect this established framework. Additionally, they maintain positive relationships with institutions representing local governments. They collaborate with their district mayors, making decisions consensually. Furthermore, requests for investment from regional and national governments are jointly managed. This situation presents an advantage for the project's development, facilitating access to authorities to work collaboratively. The project will ultimately strengthen these already established relationships, further consolidating the social capital of the participating communities.

3.3 Ecosystem Baseline

Climatic conditions

The project area receives an average annual precipitation of 1,245 mm (Ochoa-Tocachi et al., 2016) and has relative humidity levels between 65–85%, characteristic of humid and superhumid zones (Holdridge, 1987). Moisture comes primarily from the Amazon basin, not the arid Pacific coast. The region experiences a distinct wet season during the austral summer and a dry season in the austral winter. Located between 3,185 and 3,874 m.a.s.l., the area lies below the regional treeline (~4,200 m), which is largely defined by low temperatures. Despite growing near their ecological limits (~7°C), P. patula plantations succeed here due to ample precipitation (>1,000 mm/year), significantly higher than the 100–700 mm typical of semi-arid Andes (Ortega-Rodriguez et al., 2022).

The ecosystem

Peru is characterized by its extraordinary biodiversity and the diversity of its ecosystems. From central Peru south to Bolivia, Argentina and Chile, the Andean ecosystem consists mainly of puna and paramo, which are high altitude neotropical ecosystems located above the treeline (Célleri et al., 2010). The Más Árboles project is located around and below the treeline, and in order to identify the current ecosystems where the project will be implemented, the map of life zones at the departmental level of Cusco was reviewed, using the MINAM Geoserver (MINAM, 2024). Six life zones were identified in the

project intervention areas. For the description of these life zones, we have turned to the explanatory guide of the Ecological Map of Peru, elaborated in 1994.

The explanatory guide of the Ecological Map of Peru provides us with a basis for what the government has inventoried and gives us a precise understanding of the ecosystem quality in the non-degraded areas. In this context, it confirms what has been observed during a field visit: the presence of shallow soils, grasslands, and an ecosystem that has degraded over time, with small parts of arboreal vegetation, mostly in difficult to access mountain quarries. The project aims to restore native species in this area by improving the microclimate through the presence of forest masses to be implemented and enriching conservation areas, which will contribute to a successful succession of the native forest and woody shrublands.

Below the six life zones identified in the intervention area of the "*Más Árboles*" Project (INRENA, 1994).

1. Tropical Montane Moist Forest – *Bosque húmedo – Montano Subtropical*

2. Subtropical Montane Dry Forest – *Bosque seco Montano Subtropical*

3. Very Humid Subandean Subtropical Páramo - *Paramo muy Humedo Subandino Subtropical*

4. Very Humid Subtropical Montane Forest – *Bosque muy húmedo – Montano Subtropical*

5. Subtropical Subandean Pluvial Paramo – *Paramo pluvial Subandino Subtropical*

6. Subtropical Andean Pluvial Tundra – *Tundra pluvial Andino Subtropical*

3.4 Project Logic

Pines trees will act as a tool to breaking the cycle of environmental degradation and rural poverty the Andean landscape. A detailed analysis and logic of pine plantation as an intervention can be found in Annex 6.

Table 3.4 Initial Project Logic

Aim The project aims to rehabilitate and restore the project area, to empower rural communities and enhance their prosperity, and to mitigate climate change.		
	Description	**Assumptions/Risks**
Outcomes – Intended overall project aim		
Carbon Benefit	The project is expected to generate 1,255,167 tonnes of CO_2 for a period of 32 years (2023 – 2054), covering 13,300 hectares of mixed pine stands. Based on a risk buffer of 20%, this translates to 1,004,134 marketable credits in total. The estimation of expected project removals is based on ex-ante modelling according to PM001 section 8.1 i. Section 5.1.3. Expected project removals in woody biomass from the PV Climate Module PU001 v1.0 was used to model the tree growth and stand development, following the procedures in AR-TOOL14 v4.2 Section 8.2. Section 5.7.1 Even-aged management from PU001 was applied to account for the clear-cut harvest at the end of the pine rotation). The carbon removal from the conservation areas is conservatively excluded, there are no plans for obtaining carbon benefits from those areas.	The implementation of the activities relies on the availability of sufficient funding. Additionally, it presupposes the willingness of participants to establish and manage the plantations throughout the duration of the project. The projected performance of the plantations is contingent upon stable climate patterns conducive to the project area.
Livelihood Benefit	The rural communities will be empowered as the project enables them to achieve levels of self-sustainability and resilience. They will have a strengthened governance, formalized land titles, include people with enhanced skills and have a significantly improved local economy. Communities each choose between various possible interventions (non-exhaustive list): • Mushroom production • Remnant forest protection • Productive rest/fodder production • Alpaca or guinea pig raising • Groups of savers (microcredits facility) • Trainings on legal status and land ownership	It is assumed that project participants are willing to attend meetings, consultations and capacity-building sessions and to participate in peer learning frequently. Moreover, the well-functioning of the newly formed forestry committees is expected based on the peer learning sessions. Finally, the increased revenue streams rely on the assumption of strong demand for the commercial products. SP encourages the active participation of all community members. Special attention is given to the integration of women, young people and vulnerable populations, to promote inclusivity.

	• Training in management of mushrooms for their harvest and sale, recipes on how to cook them • Women participation reward and motivations systems such as community contests.	
Ecosystem Benefit	The project area will be structurally revegetated with both exotic and native species, gradually restoring the natural landscape. Commercial pine plantations improve soil quality and create favourable growing conditions for native species, allowing them to regenerate naturally and by assisted regeneration during and after the pine harvest. Specifically in the Andean region, a review of exotic tree plantations, including pine (Bonnesoeur et al., 2019), showed that forestation with exotic species increased the water retention and reduced soil erosion in degraded soils, thus improving conditions for native species. As the project aims for low planting intensity (start density of 493 trees per hectare), this indicates that the pine plantation could likely provide a good habitat for native species regeneration. Planting native species during and after the pine furthermore increases the availability of propagules, which will enhance the natural regeneration process. The revegetation of the landscape will reduce soil erosion and the risk of floods and landslides and promote biodiversity.	It is assumed firstly that the planting efforts will result in sufficient vegetation cover to restore the natural landscape. Moreover, the regeneration of native vegetation relies on the improved soil quality, growing conditions and propagule availability after the pine harvest. Lastly, the revegetation of the landscape is assumed to lead to improved soil stability. This, in turn, is expected to reduce soil erosion and mitigate the risk of floods and landslides by enhancing soil structure and water retention capacity. No specific ecoregions will be targeted for revegetation, as the project focusses on all types of native vegetation. By targeting degraded land and allowing natural regeneration of native species take place, each area will recover towards its original ecoregion. A risk is that the new generation on the communities will not replace pine with native trees after harvesting. To mitigate this risk it is essential that new generations learn about the value and importance of native trees when they are still young. Part of that learning is practical: The Project will promote having the children replace dead or deformed pine trees with native, together with their parents over several years. At the same time, teachers and students will be provided with educational material about native trees, bushes, and wild native animals, most of which are presently IUCN Red Listed.
Outputs		
Output 1	**Commercial timber plantation** Plantations of the species *Pinus patula* and *Pinus radiata* will be established and managed. The project aims to introduce and maintain these species, considering their potential contribution to the ecosystem and economic impact on the beneficiary communities. In principle, irrigation will only take place in the nurseries (which are small	**Potential risks for successful achievement:** 1. Insufficient planting efforts leading to smaller plantations *Mitigation:* Careful planning of the planting efforts to ensure optimal time frames 2. Poor plantation management by project participants, affecting tree growth and survival rates.

	and far apart), not in the plantations. Currently, the required water is coming from lagoons, lakes, small rivers and springs. With prior authorization from the communities, nurseries are located close to water bodies to facilitate potential manual irrigation (hoses, buckets). In the location planning, proximity to infrastructure is taken into account as well, to facilitate the access of water transportation (tank trucks, hoses and manual irrigation) to the nurseries in each community. When the saplings are planted in the plantation, hydrogel is used on the sapling roots to protect them from potential drought.	*Mitigation:* Ensuring proper plantation management learning for and continuous motivation under project participants. The project ensures continuous motivation by organizing exchange trips to preceding, successful communities and other projects in the country, to show the potential livelihood improvements. Moreover, the implementation of contests tremendously increases motivation under participants to take care of their trees. 3. Poor resistance to changes in climate such as extreme droughts, affecting tree growth and survival *Mitigation:* Conservation areas with native species are being established surrounding water bodies as a strategy to improve water retention and preservation. No plantation irrigation systems will be set up in case of extreme droughts, due to difficult geographical conditions and the extensive plantation areas. Tree mortality will be counterbalanced by replanting after severe droughts. 4. The introduction of exotic timber species may face opposition from environmental groups concerned about the potential impacts mainly on water resources. Pachamama Raymi nor Sembramos Prosperidad have never been approached by any opposed environmental group. Conflicts over land use and resource allocation could delay or disrupt plantation establishment and management activities. *Mitigation:* Revegetating a maximum of 20% of the communal lands to avoid a monocultural landscape or excessive water consumption. As Sembramos Prosperidad is aware of the potential negative impacts of pine plantations, the project is designed in such a way that any concerns of potential opposition groups are minimal. 5. Pest or disease outbreak: Potential pests include rabbits, which may damage tree bark, and caterpillars, though the latter are not a significant threat. Fusarium, a disease linked to nutrient deficiencies, can make pine trees vulnerable to fungal infections.

		Mitigation: Low planting density enhances air flow and sunlight, reducing pest risks and supporting a diverse understory that discourages rabbit damage. Fusarium is addressed through nursery hygiene, resistant genetic stock, and sapling treatments with mycorrhiza, hydrogel, and organic fertilizer. Additional manure is applied if growth is poor. Continuous monitoring enables early detection, with removal of severely affected trees. Community training sessions strengthen local capacity for outbreak response. 6. Forest fires, which will be stronger and more recurrent due to various climatic events such as the El Niño phenomenon. *Mitigation:* Strengthening the capacities of community members for swift and efficient fire prevention and response. The National Institute of Civil Defence (INDECI) will be an additional ally of the project. Currently, a partnership agreement is being finalized with this institution to receive direct support through training sessions to prevent, manage, and respond to forest fires. **7.** Grazing animals causing damage to newly planted trees, affecting plantation establishment and growth. *Mitigation:* Land use zoning (against grazing). The income from mushrooms is incentive to protective measure. Capacity building to ensure that individuals comprehend and internalize the importance of respecting this zoning. The creation of new businesses and new efficient fodder production result in people abandoning unproductive grazing on the degraded hillsides. In previous Pachamama Raymi projects, the peer learning and grading system, outlined in section 2.4 on Participatory Design, led to widespread adoption of these new business models. This demonstrates how motivated participants were to embrace the new models. In the current project, the communities not only contributed to the economic model of new businesses, but they also hold full authority to decide which ventures to embrace. This selection

		process is facilitated by Pachamama Raymi's peer-learning approach, as explained in Section 2.4 Participatory Design of this Evaluation Form. Each proposed business in the Más Árboles project has been identified by the communities through careful assessment, prioritizing practices that enhance resource recovery, boost productivity, and offer the greatest benefits for both the ecosystem and local prosperity. Leakage can occur when project interventions which (for instance) reduce livestock grazing or other forms of resource, potentially leading to emissions being generated elsewhere. Therefore, project activities must balance the reduction in income from newly-imposed restrictions. The risk of leakage can be reduced by implementing activities to increase productivity and/or provide alternative sources of income that do not contribute to leakage. Under the Más Árboles project, unproductive grazing and agriculture are being replaced with sustainable businesses such as tree plantations, mushroom cultivation, and fodder-fed livestock. Free cattle grazing, a major driver of degradation and carbon loss, will be significantly reduced. New practices will maintain or increase production in a more efficient and sustainable manner, eliminating leakage risk and preserving carbon stocks beyond the Project Area.
Output 2	**Native species restoration** Native tree species will be established adjacent to water bodies, aiming to safeguard and preserve water resources and serve as the foundation for landscape restoration efforts. In addition, after the pine harvest, native species (Queña - *Polylepis spp*, Colle - *Buddleja coriacea*, Molle - *Schinus mole*, Nogal - *Juglans neotropica*, Aliso - *Alnus acuminata*, Cedro de altura - *Cedrela angustifolia*, Pisonay - *Erythrina falcata*, Tara - *Caesalpinia spinosa*, Chachacomo - *Escallonia resinosa*) are planted in the harvested plots to assist the regeneration of native vegetation. As a	**Potential risks for successful achievement:** 1. Insufficient planting efforts leading to smaller plantations. *Mitigation:* Careful planning of the planting efforts to ensure optimal time frames 2. Poor plantation management by project participants, affecting tree growth and survival of new species. *Mitigation:* Ensuring proper plantation management peer learning for and continuous motivation of project participants 3. Poor resistance to changes in climate such as extreme droughts, affecting tree growth and survival rate.

	result of the wide planting spacing in the pine plantations, sufficient light can reach the soil and the improved soil conditions and microclimate allow for natural regeneration of native species in between the pines. Moreover, any mortality in the pine will be counterbalanced by planting native species in the empty spaces, whose survival is made possible by the improved growing conditions through the pine. The presence of the natives gives a head start to natural regeneration. After careful harvest of the pine, the remaining native vegetation will be enriched with the planting of the above-mentioned species. These restoration plots significantly enhance biodiversity, soil conservation, and overall ecosystem health, particularly those in high-altitude watersheds.	*Mitigation:* Native species of Andean forests are adapted to prolonged droughts, however, with the expected increase due to climate change, initial plantations of native species will be established near water bodies to allow plants to access groundwater and better withstand drought conditions. 4. High mortality rate among native species. *Mitigation:* Implement a thorough monitoring system to promptly detect signs of stress or mortality among native species. Additionally, establish a replanting strategy to replace any lost individuals and ensure the maintenance of species diversity within the forest ecosystem. 5. Limited availability of propagules to support the natural revegetation process. *Mitigation:* If monitoring indicates insufficient regeneration as a result of a lack of propagules, planting strategies will be adjusted to ensure sufficient availability at the right locations. 6. Close collaboration with SERFOR to ensure the availability of seeds and access to propagation techniques. 7. Restricted availability of seeds of native species from this ecosystem type. *Mitigation:* Close collaboration with SERFOR to ensure the availability of seeds. 8. Forest fires, which will be stronger and more recurrent due to various climatic events such as the El Niño phenomenon. *Mitigation:* Strengthening the capacities of community members for swift and efficient fire prevention and response The National Institute of Civil Defence (INDECI) will be an additional ally of the project. Currently, a partnership agreement is being finalized with this institution to receive direct support through training sessions to prevent, manage, and respond to forest fires. 9. The presence of grazing animals causing damage to natural regeneration, enrichment, or newly planted native seedlings, affecting the establishment and growth of conservation areas. *Mitigation:* The mitigation measure would involve zoning and capacity building to

		ensure that individuals understand and internalize the importance of the ecosystem services provided by the conservation areas.
Output 3	**New revenue streams** The project's capacity building initiatives and commercial support will lay the groundwork for beneficiaries to generate income from edible mushrooms grown beneath the pine trees and carbon credits. Commercial timber sales will provide additional revenue streams to the project participants on the long run.	**Risks for successful achievement:** 1. Market demand fluctuations decrease the economic value of the project products and affect the profitability of the plantations and the project's economic impact on beneficiary communities. *Mitigation:* Participating in national or regional fairs can help establish contacts with reliable buyers and understand market trends. Long-term contracts with these buyers can ensure steady demand, mitigating the impact of market fluctuations on project profitability and its economic benefits for beneficiary communities. 2. Poor plantation management by project participants, affecting tree growth and commercial value. *Mitigation:* Ensuring proper plantation management training for and continuous motivation of project participants
Output 4	**Land Registration formalization** Land registration processes will be facilitated by conducting community mapping activities through campaigns and providing legal guidance. As a result, families and communities can take the necessary steps to formalizing their land ownership, empowering them. Based on information obtained from the SICAR and BGR databases from SUNARP, and validated against other data, it is concluded that all 35 rural communities have titles registered in public records. However, some of these communities have properties registered twice under different electronic entries. As long as there are no indicators of conflicts or disputes over areas near the boundaries, the contracts for the Más Árboles project can proceed. In cases where there is discord over boundary markers, Sembramos Prosperidad will ensure that the community assign plantation locations far from the conflict areas.	**Risks for successful achievement:** 1. Limited awareness or engagement of community members in the land registration process. Without sufficient participation, there may be incomplete or inaccurate mapping data, potentially leading to disputes over land boundaries and ownership rights. *Mitigation:* Awareness raising of the importance of possessing formal land titles 2. Complex legal frameworks that are challenging (for community members). Misinterpretation of laws or bureaucratic procedures may result in delays or errors in the formalization process. *Mitigation:* Legal process guidance is offered to communities by local law students from the Association of Law linked to different universities in Cusco
Output 5	**Consultations & Forestry committees** The project promotes community	**Risks for successful achievement:**

	involvement and informed decision-making by organising regular meetings, stakeholder consultations, peer learning, and capacity-building sessions. Forestry committees will be formed that, based on the peer learning sessions, can independently organize and manage plantations and revenues from the various sources of newly generated income. This will prevent a dependency on external support and develop local ownership and self-reliance.	1. Limited participation might result in lower motivation for the project and in decisions that do not adequately reflect the diverse needs and priorities of all community members *Mitigation:* Provide incentives or benefits to enhance motivation and engagement among participants. 2. Unequal representation, particularly if certain groups or individuals dominate internal decision-making processes. Marginalized or vulnerable community members may have limited voice or influence, leading to decisions that favour the interests of more powerful community members *Mitigation:* Offer training and capacity-building programs to empower marginalized community members and enhance their influence. 3. Lack of capacity and skills of the Forestry committees to properly manage plantation activities and revenue streams *Mitigation:* Facilitate peer learning and knowledge-sharing initiatives among members to strengthen their collective capacity.

3.4 Additionality

Table 3.5 Initial Barrier Analysis

Project Intervention	Main Barriers	Activities to Overcome Barriers
Commercial pine plantations	The barriers to establish commercial timber plantations with pine species historically stem from several factors. Firstly, financial constraints. In short term community projects , typically only about 1 to 3% of the available area is planted with timber trees and there is improper plantation management, resulting in timber with low commercial value. This type of activity is not very appealing for financial institutions since they consider the risk very high and fear they will not have the return on their money. The credit requirements are aimed at legal certainty, provided by recognition of legal status, legal status, ownership of land, guarantor, assets in bond, the family must belong to a guild or	As part of the agreement to develop a carbon project, Treevive, the supporting company, is financing the initial project costs for the first year (2024), before carbon revenues are generated., The anticipated revenues from ex-ante carbon sales will enable a 60% profit share for the communities. The remaining 40% will be used to offset project and management costs in subsequent years. *Sembramos Prosperidad* is providing the necessary knowledge for the communities to establish and manage such plantations effectively. The

	association that supports this request. This is often all absent in the communities. Secondly, there is a shortage of technical expertise, as individuals now lack the necessary knowledge and know-how to establish and manage such plantations properly. Thirdly, there is a scarcity of resources, including limited access to seeds and seedlings required for nursery and plantation establishment, as well as a deficiency in necessary equipment. Finally, a major barrier project participants face in implementing the project intervention is the lack of zoning within the communities. Communities often require designated areas for various activities such as crop cultivation, raising small animals, grazing areas, recreation, among others. Without proper zoning, conflicts may arise over land use, leading to inefficiencies and challenges in project implementation. meet community needs.	generated carbon revenues ensure *Sembramos Prosperidad's* continued involvement in peer learning over an extended period, rather than just at the project's outset. *Sembramos Prosperidad* will address the scarcity of resources by utilizing funding from Treevive and carbon incomes to purchase equipment. They will also negotiate with the local government to secure in-kind resources to support the project. Finally, *Sembramos Prosperidad* will work with community leaders and relevant stakeholders to develop zoning plans that allocate land for various purposes based on community needs and priorities. They will ensure that zoning plans are flexible, inclusive, and responsive to changing community needs.
Native species restoration	To the native species restoration, the same barriers apply as to the commercial pine plantations. In addition, the current ecological and soil conditions in the areas remote of waterbodies and the lack of propagules do not allow natural regeneration of native species.	To the native species restoration, the same activities to overcome the barriers apply as to the commercial pine plantations. In addition, the planting of pine trees is expected to improve soil quality and growing conditions to such an extent that it enables (natural) regeneration of native species. To enhance this process, native species will be planted during and after the pine rotation to increase propagule availability.

3.5 Exclusion List

The project does not include any of the activities listed in the Plan Vivo Exclusion List. A complete Exclusion List is provided in Annex 3.

3.6 Environmental and Social Screening

The project coordinator responses to the social screening report are provided in Annex 4.

Table 3.7 Environmental and Social Risks

Risk Area	Potential Risks

Vulnerable Groups	Risk of exclusion of vulnerable groups such as women, widows, elderly, disabled people or orphaned children: This risk is mitigated through incentivization of including these groups by means of contests.
Gender Equality	Low Risk: The project's participating populations include a strong Gender Equality component with awareness campaigns. Additionally, technical forestry peer learning sessions are provided to specific groups of women, and the hiring of women for silvicultural tasks in both the nursery and field is also considered. However, it's important to recognize that while Western ideas seek to empower women, in these ancestral communities, gender roles are different, which may lead to conflicts within families in the short to medium term.
Human Rights	Low Risk: The project entails an inclusive approach to social development, which seeks to enhance various forms of capital—human, social, economic, and environmental—as well as governance. It actively engages local authorities to ensure representation by an independent local entity advocating for citizen interests. This promotes transparency regarding social rights and helps uphold and advance fundamental rights, including the right to life, self-determination, cultural preservation, healthcare, employment, access to water, and a decent standard of living.
Community, Health, Safety & Security	The project poses no risks to community health, safety, or security. Plantations use eco-friendly fertilizers, avoiding harmful chemicals and pre-planting burns. Native species planted near watersheds improve water quality and availability. A safety protocol is in place, with thorough worker training to ensure on-site health and safety.
Labour and Working Conditions	The project adheres to national labour laws, specifically the Consolidated Text of Legislative Decree No. 728, the Law on Labor Productivity and Competitiveness, and the International Labor Organization's (ILO) Declaration on Fundamental Principles and Rights at Work. Working conditions for project personnel are guaranteed to meet these criteria, fostering practices that are non-discriminatory, ensuring equal opportunities, providing transparent employment terms, preventing harassment or exploitation, and safeguarding the freedom of association, among other fundamental principles and rights.
Resource Efficiency, Pollution, Wastes, Chemicals and GHG emissions	The project minimizes risks related to resource use, pollution, and emissions by reforesting degraded land without harmful chemicals or burning, ensuring a low environmental impact and sustainable practices.
Access Restrictions and Livelihoods	There won't be any actions that impede individuals' access to land or natural resources where they hold established rights, whether customary or legal. In zones designated for plantations and conservation however, access for other activities than the intended ones will be restricted. This enhances the risk of conflict with community members not participating in the project. The zonation exercise mitigates this risk, since it clearly designates all community land areas to certain activities, guaranteeing sufficient land for all community members. The communities have long-standing organizational structures and are knowledgeable about their entitlements. This organizational setup guarantees members' compliance to the zonation.
Cultural Heritage	The project takes place in Cuzco, rich in Inca and pre-Inca heritage. To protect cultural assets, it follows Ministry of Culture (MINCUL) guidelines,

	maintaining safe distances and submitting a dossier to ensure compliance with Law Nº 28296 on cultural heritage. This proactive approach mitigates risks to archaeological sites.
Indigenous Peoples	All participating communities are officially recognized Quechua Indigenous peoples. The project poses no risk to them; instead, it enhances their well-being, development, and livelihoods. Their direct involvement fosters empowerment against external influences.
Biodiversity and Sustainable Use of Natural Resources	Biodiversity and natural resource risks are minimal, as the project includes landscape restoration with native species to recover past biodiversity loss. Forest remnants will be preserved, expanded, connected, and enriched.
Land Tenure Conflicts	All communities have updated land titles. While some inter-community border conflicts remain, efforts—supported by Cuzco University law students and graduates—are addressing them. Communities cannot participate until these conflicts are resolved. Tree plantations may be established, but only far from disputed areas. Within communities, activities follow agreements approved by juntas comunales, significantly reducing conflict risk.
Risk of Not Accounting for Climate Change	Potential risks faced by communities because of climate change are considered. There is coordinated work with public institutions responsible for implementing adaptation measures and making populations more resilient.
Other – e.g. Cumulative Impacts	Water Resources Reforestation can positively influence water resources by improving water quality and regulating hydrological balance. However, if multiple reforestation projects occur within the same watershed, cumulative impacts may alter regional water availability and overall water balance, requiring careful planning and monitoring. Irrigation will only be applied in the tree nurseries, not in the plantation areas.
Extreme weather	Extreme weather events, such as extreme rainfall, droughts and forest fires pose a potential risk on young tree development and hence project activities.

3.7 Double Counting

There are no overlapping carbon credit projects within the proposed project region. All participating communities enter into an agreement with Sembramos Prosperidad, committing not to generate any other transferable emission reduction or removal credits from the carbon pools included in this project. Additionally, the project will not contribute to any national, jurisdictional, or sub-national programs or projects, nor is it required to allocate credits towards Nationally Determined Contributions (NDCs) under the Paris Agreement.

Table 3.8 National Level Legislation, Policies and Instruments

	Yes/No/Unsure	**Details**
Is there a national registry for land-based carbon projects?	Yes	In September 2020, the Peruvian Ministry of Environment launched the digital platform "National Registry of Mitigation Measures" (RENAMI – after the Spanish "*Registro Nacional de Medidas de Mitigación*"). The platform is created to monitor compliance

		with the country's Nationally Determined Contribution under the Paris Agreement and collect, register, monitor and manage information on GHG emission reductions resulting from the implementation of climate change mitigation measures. The platform also includes a registry for GHG emission reduction units commercialized in the market.
Are carbon rights defined in national legislation?	No	No, carbon rights are not directly defined in national legislation. However, based on the definitions of forest carbon within the regulations of the forestry law, which categorizes it as an ecosystem service provided by forests, one can infer who has rights over the value of forest carbon.
Are there any carbon pricing regulations existing or in development (e.g. emissions trading scheme or carbon tax)	No	N. A.
Does the country receive or plan to receive results-based climate finance through bilateral or multilateral programs?	Yes	The Joint Declaration of Intent (JDI) is a voluntary cooperation agreement signed by the Governments of Peru, Norway, and Germany to achieve the reduction of greenhouse gas emissions produced by deforestation and forest degradation in Peru. This agreement contributes to Peruvian efforts in designing and implementing public policies at the national and regional levels to reduce greenhouse gas emissions (GHGs) produced by deforestation and forest degradation (REDD+).
Are there any other relevant regulations, policies or instruments?	Yes	Peru currently has an agreement with Switzerland to reduce emissions through the implementation of improved stoves in the high Andean regions under Article 6 of the Paris Agreement. Additionally, in 2023, they signed a Memorandum of Understanding (MoU) with Singapore to carry out carbon projects also under the framework of Article 6 of the Paris Agreement.

4 Governance and Administration

4.1 Governance Structure

The Más Árboles project has four principal project partners:

- Pachamama Raymi and the communities – Project initiators
- Sembramos Prosperidad – Project coordinator/proponent
- Treevive – Project investor and service provider
- Form International – Technical support partner of Treevive

Project management

The Civil Association *Sembramos Prosperidad* (SP) is the coordinator (proponent) of the project. It has contracted the Civil Association *Pachamama Raymi (*PMR) to develop logistical, administrative and personnel activities required by SP for the execution of the Más Árboles project, as well as alliances, agreements and contracts with public or private institutions. Both organizations are led by their Boards of Directors, who outline the overall strategy and direction of the NGOs. Project decision-making is made and executed by PMR. SP is the executive representative of the project. The remuneration paid to the coordination represents 40% of the carbon sales revenues.

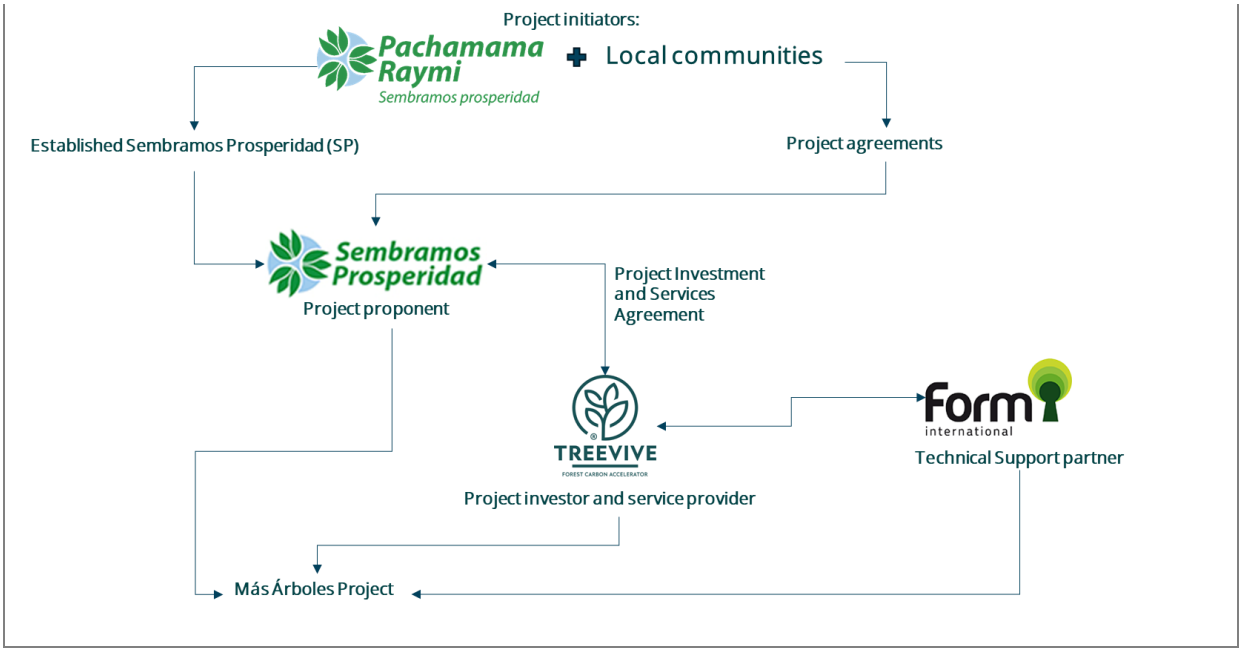
The Project coordinator is in charge of the overall management of the project (design, implementation, monitoring and evaluation of the project). The office manager is responsible for the administrative and organizational aspects of the head office. The field offices have a modular structure, headed by a General Operations Coordinator, and the district coordinators. The district coordinators direct one or more expert farmers and nursery staff. The district's communities are under the direction of jury members (volunteers, appointed by the community).

The remuneration of payments to the communities represents 60% of the carbon credit earnings over the lifetime of the Project. Once Project revenues become significant, consideration will be given to creating a Community (trust) Fund. Such Fund could be held with major financial institution such as Scotiabank or other reputable banks. This Fund would be independent from Sembramos Prosperidad and fully auditable by both communities and financial entities, ensuring transparency in managing the proceeds from carbon credit sales.

Finally, the District Municipalities also participate in the development of the project, formalizing their support through collaboration agreements with the Project Coordinator. Additionally, there are 3 more collaboration agreements in force: with the Forestry and Wildlife Service (SERFOR), with the University of La Molina and with the Association of Law Students of the Cusco Region.

Technical & commercial support

Treevive, in partnership with Form International, provides technical, pre-finance and commercial support to the project. This is formalized in a Project Investment and Services Agreement between Sembramos Prosperidad and Treevive. Between Sembramos Prosperidad, Treevive and Form International, a Steering Committee has been formed to make strategic decisions.



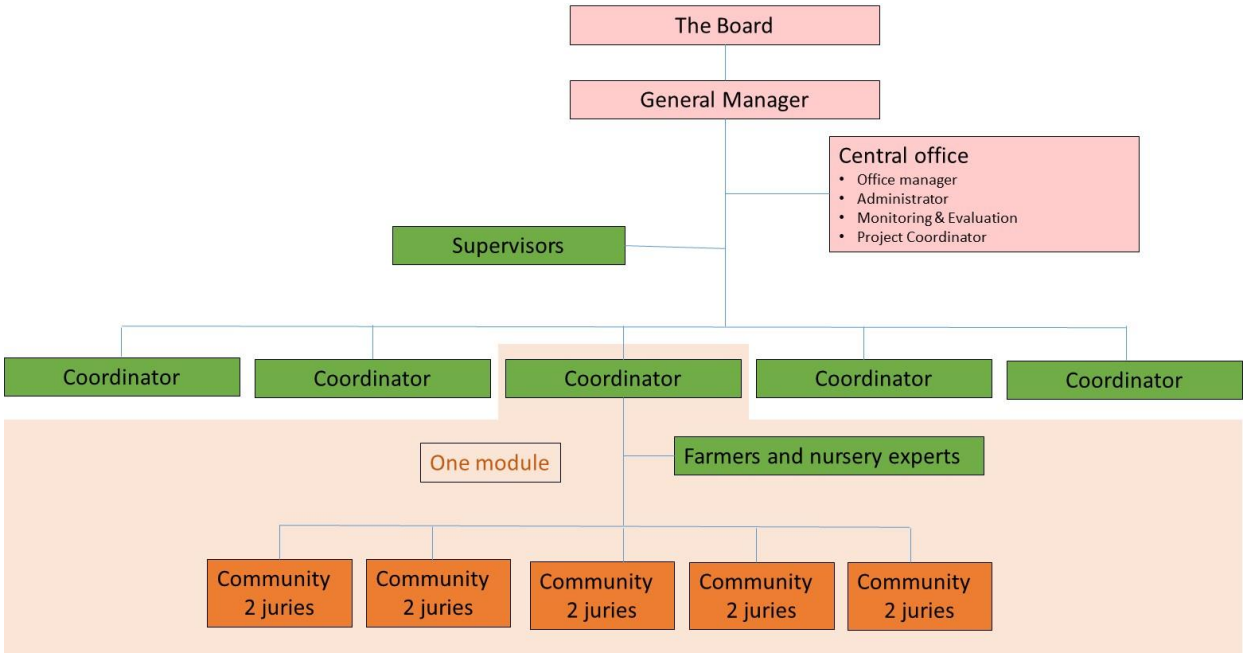


Figure 2. Organigram of Sembramos Prosperidad. The organigram for Coordinators has a modular structure. An example module is displayed, headed by a coordinator.

4.2 Legal and Regulatory Compliance

The following regional and national authorities involved in the project have been informed of the intentions of the development of the project and their preliminary favourable opinion has been requested:

1. Local and Regional Governments (Regional Government of Cusco, District Municipalities of Accha, Ccapi, Ccapacmarca, Huanoquite and Omacha)
2. Instituto de Manejo de Agua y Medio Ambiente (IMA)
3. Ministry of the Environment (MINAM)
4. SERFOR
5. National Institute of Civil Defence (INDECI)

6. Ministry of Culture (MINCUL)
7. SERFOR – Technical Administration of Forestry and Wildlife Cusco (ATFFS)
8. SENAMHI
9. National Agrarian Health Service (SENASA)
10. Geological, Mining and Metallurgical Institute

Chapter 2.1 Stakeholder Identification discusses how these authorities will be engaged during project development. Proof that these authorities have been informed is included in Annex 5. A statement by *Sembramos Prosperidad* that the project will operate in full compliance with all national and international policies, laws and regulations is additionally included in Annex 5.

4.3 Financial Plan

A complete financial model of the Más Árboles project, including historical expenses, funding sources, and projected future revenues, profits and benefits has been prepared and is available upon request.

Pre-carbon funding by Pachamama Raymi and Treevive
To date, the project has been implemented using a blended finance approach. In more detail: The project operational, implementation and certification costs for the first three project years, 2023, 2024 and 2025 are largely covered and to be covered by grants, own contributions by Pachamama Raymi and through a pre-finance arrangement by Treevive. Project validation and the initial verification for ex-ante certificates are expected in Q1–Q2 2026, with the resulting carbon revenues forming the primary strategy for covering operational expenses from that point onward.

Profits
Both Sembramos Prosperidad and Pachamama Raymi are non-profit civil associations aiming to directly benefit the communities and farming families of the Peruvian highlands. There is no profit distribution from the associations. If there is any surplus income for SP from the income, it will be used to fund new projects and intervention areas. Treevive is set up as an impact enterprise, meaning it does not aim for profit maximization but rather to create a revolving structure that can continue to offer high-risk capital to forest projects. This means that once profits are made, they will be reinvested to prefinance new projects as much as possible.

Benefit sharing
The proposed Benefit Sharing Mechanism is as follows:

- 60% of the total gross revenue over the project lifecycle will benefit the communities through in-cash and agreed in-kind benefits.
- From the total project revenue, an estimated 10% will translate into agreed in-kind benefits such as saplings and education/trainings. A list of these cost items is provided in the Financial Model.
- The communities will further receive cash benefits based on the realised value of the carbon annually removed according to annual monitoring. This mechanism avoids the financial risk of non-materialisation of pre-sold credits. Together, in-kind and in-cash benefits will add up to 60% of the carbon revenues over the project lifecycle.

In-kind benefits
For the training and in-kind benefits that the project delivers to the communities, a preliminary cost distribution proposal has been proposed to the communities and is currently under consultation and thus subject to change. The in-kind benefits will consist solely of items discussed and requested

directly by the communities themselves. In SP's accounting, all in-kind benefits provided to each community are being registered

In-cash benefits

In Peru, direct payments to communities via cash or bank deposits face a significant drawback due to high taxation. A 30% income tax combined with an 18% sales tax could reduce the communities' net income by nearly 50%. To address this issue, once carbon credit revenues become significant, communities may prefer to set up a Community Fund and then propose investments which will be contracted and paid for from such Community Fund, thereby avoiding heavy tax burdens while still reaping the project's rewards. Of course, cash pay outs always remain a possibility.

Currency Considerations

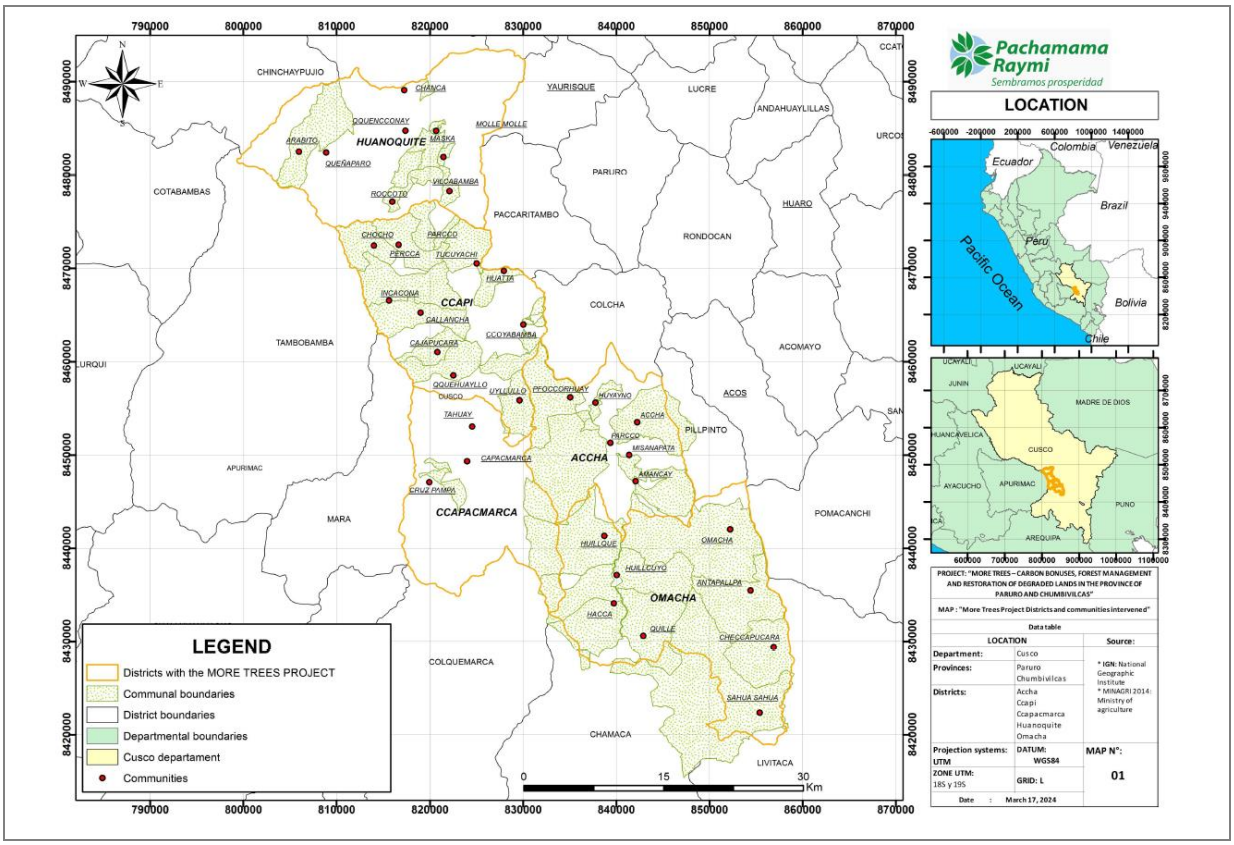
The project is still deliberating on the most stable currency for managing the Fund. Options include the U.S. dollar (USD), the euro (EUR), or the Peruvian sol (PEN), with careful consideration being given to minimizing financial risks and ensuring currency stability.

Annexes

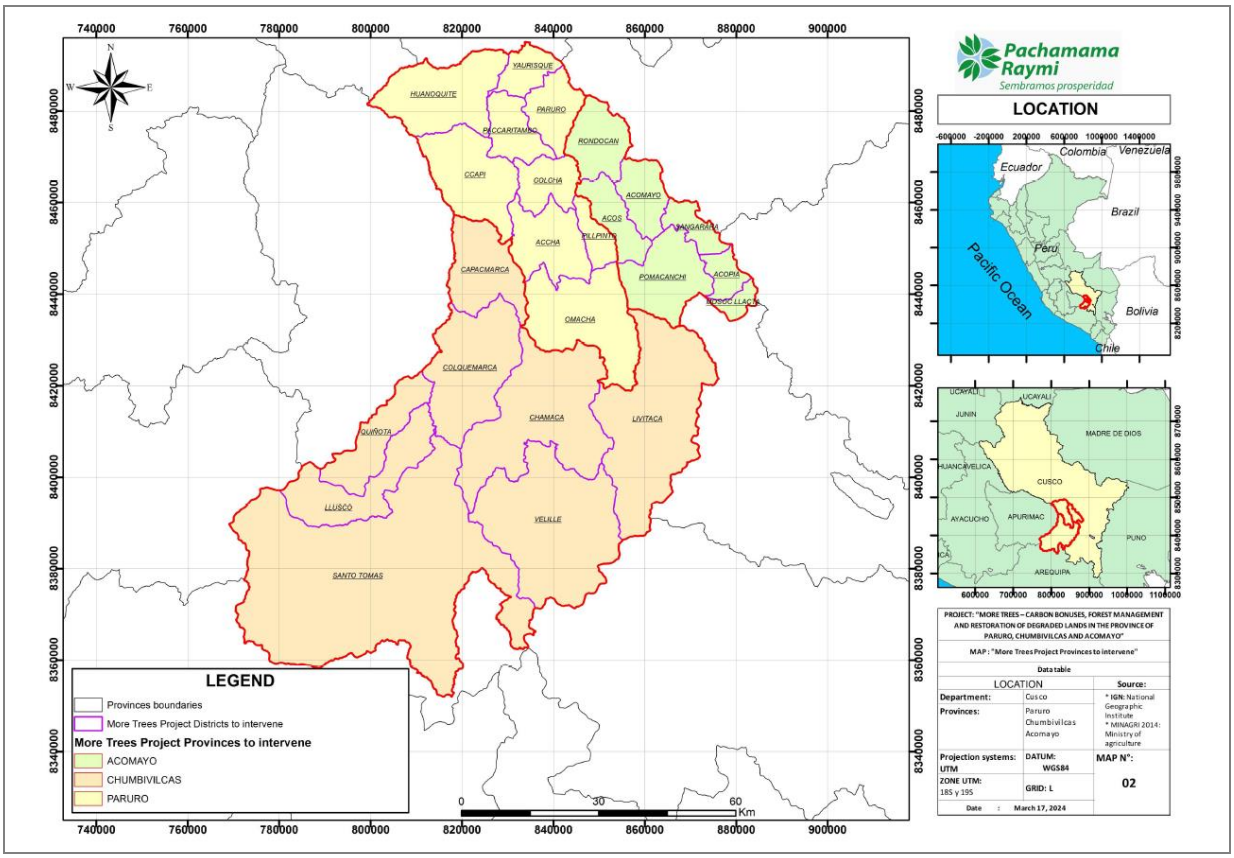
Annex 1 – Project Boundaries

Geospatial data files for project region and project area boundaries are provided by email.

Más Árboles Project areas



Más Árboles Project Regions



Más Árboles district maps

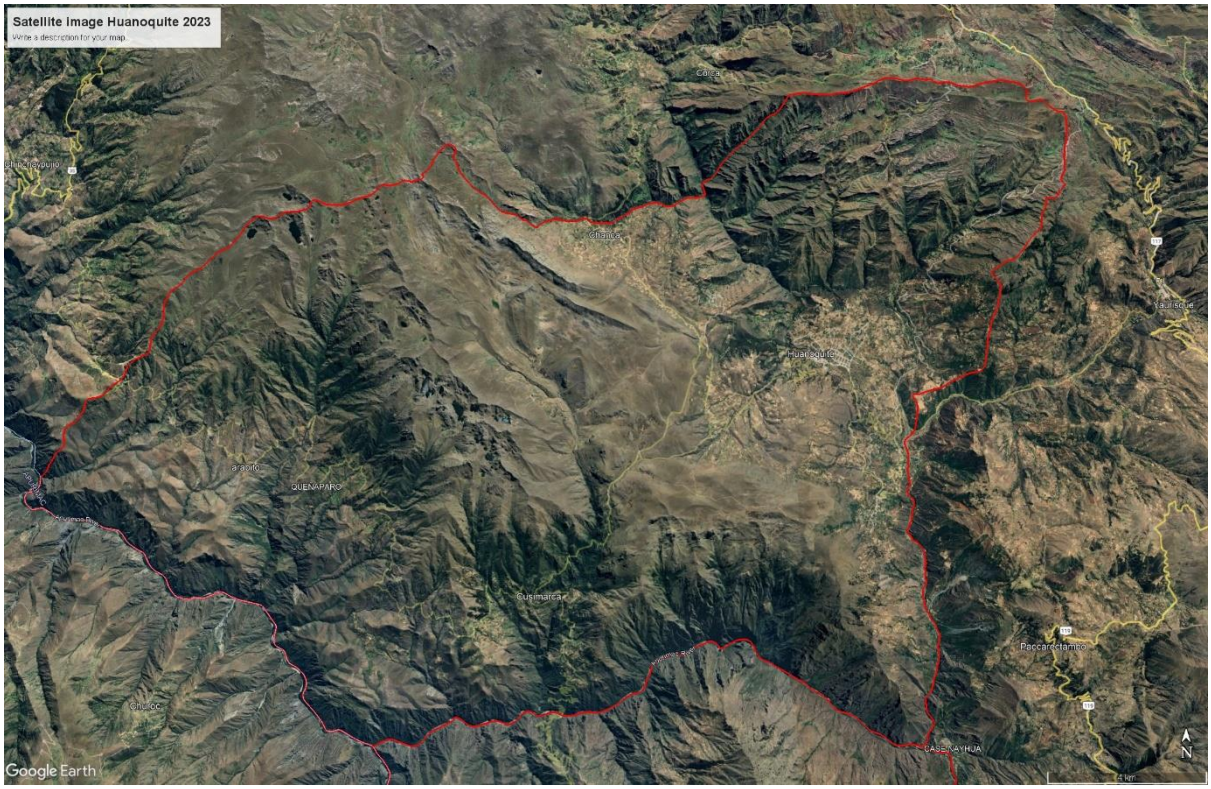


Figure 4. Satellite imagery of the Huanoquite district (Google Earth Pro, 2023).

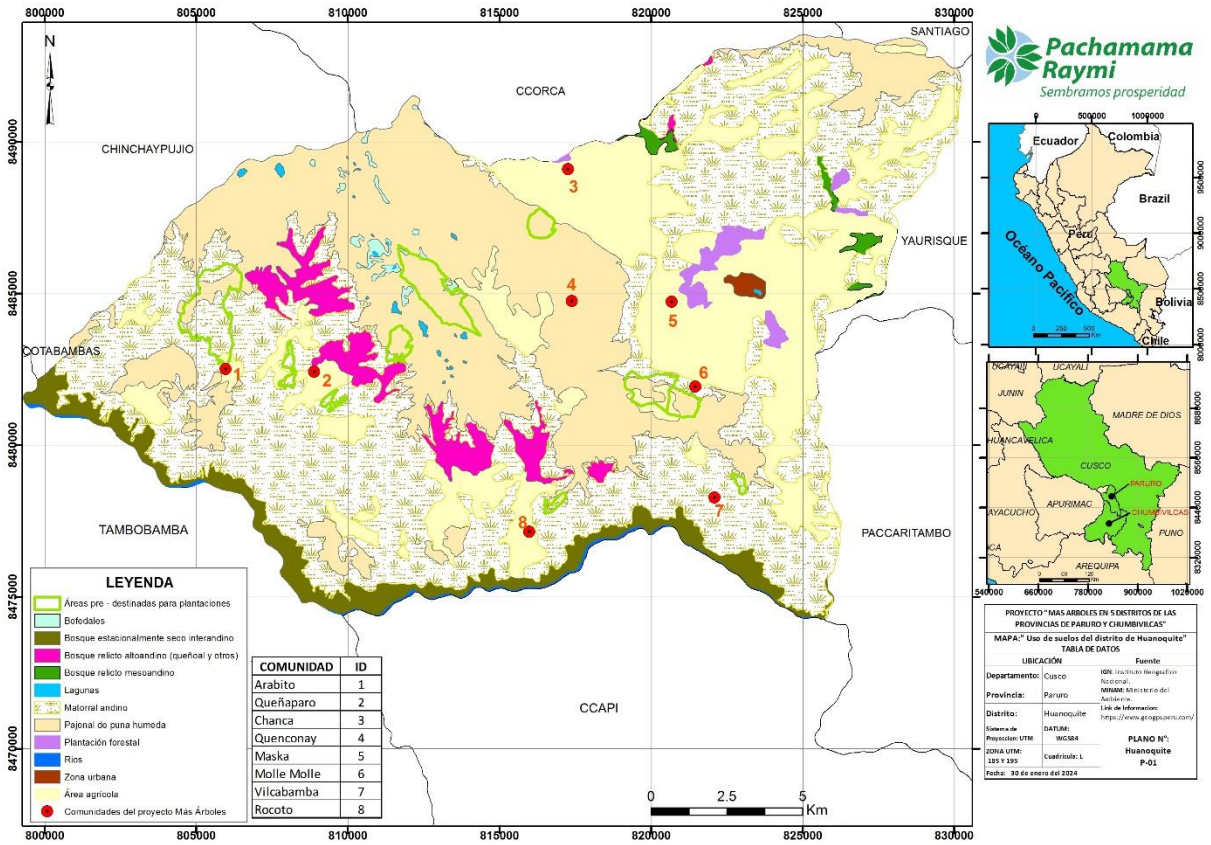


Figure 5. Present land uses in Huanoquite district (Pachamama Raymi, 2024).

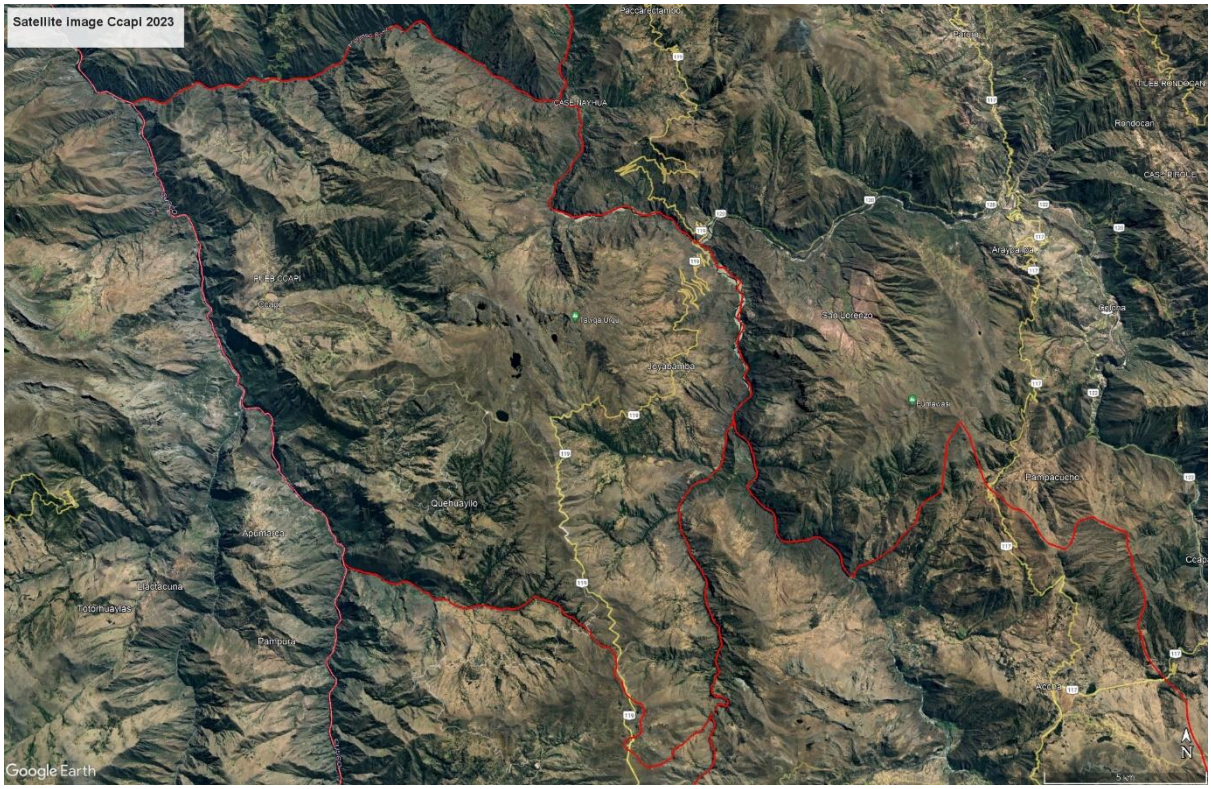


Figure 6. Satellite imagery of the Ccapi district (Google Earth Pro, 2023).

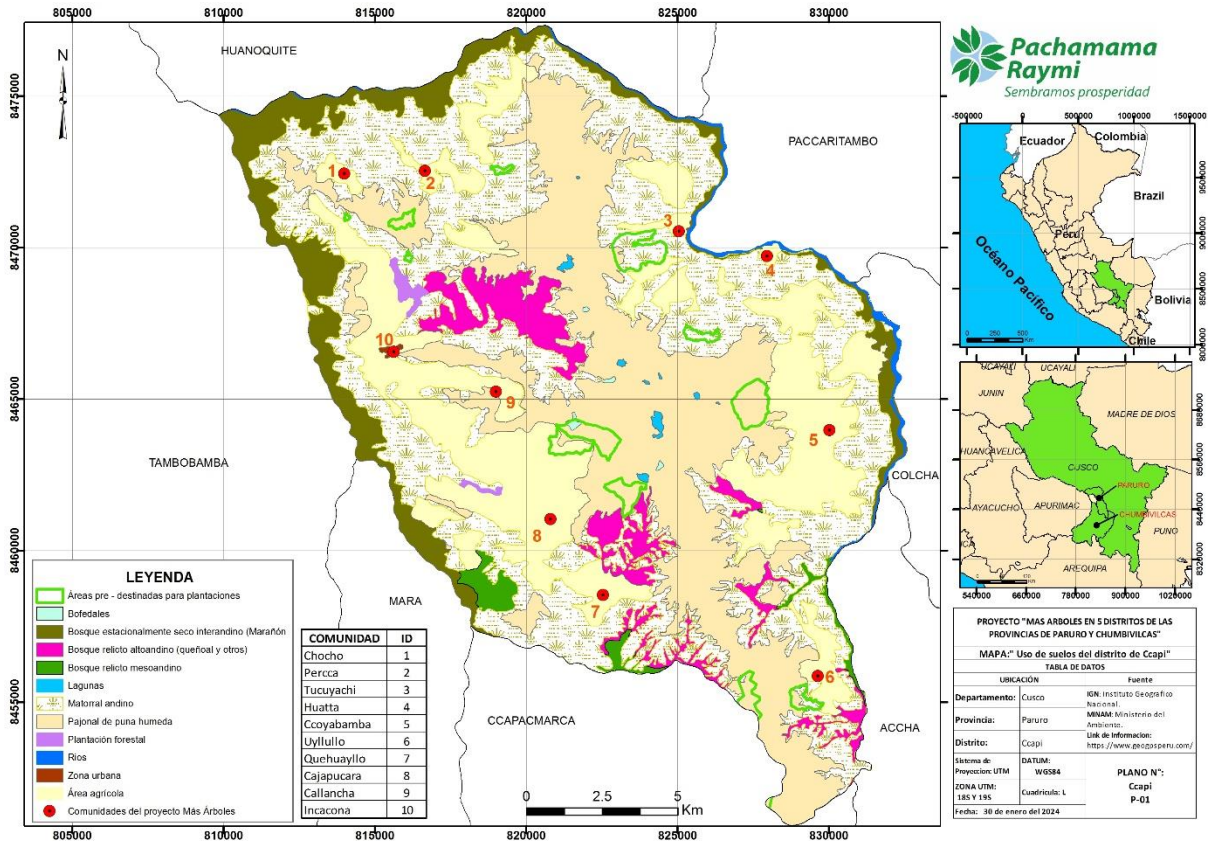


Figure 7. Present land uses in Ccapi district (Pachamama Raymi, 2024).

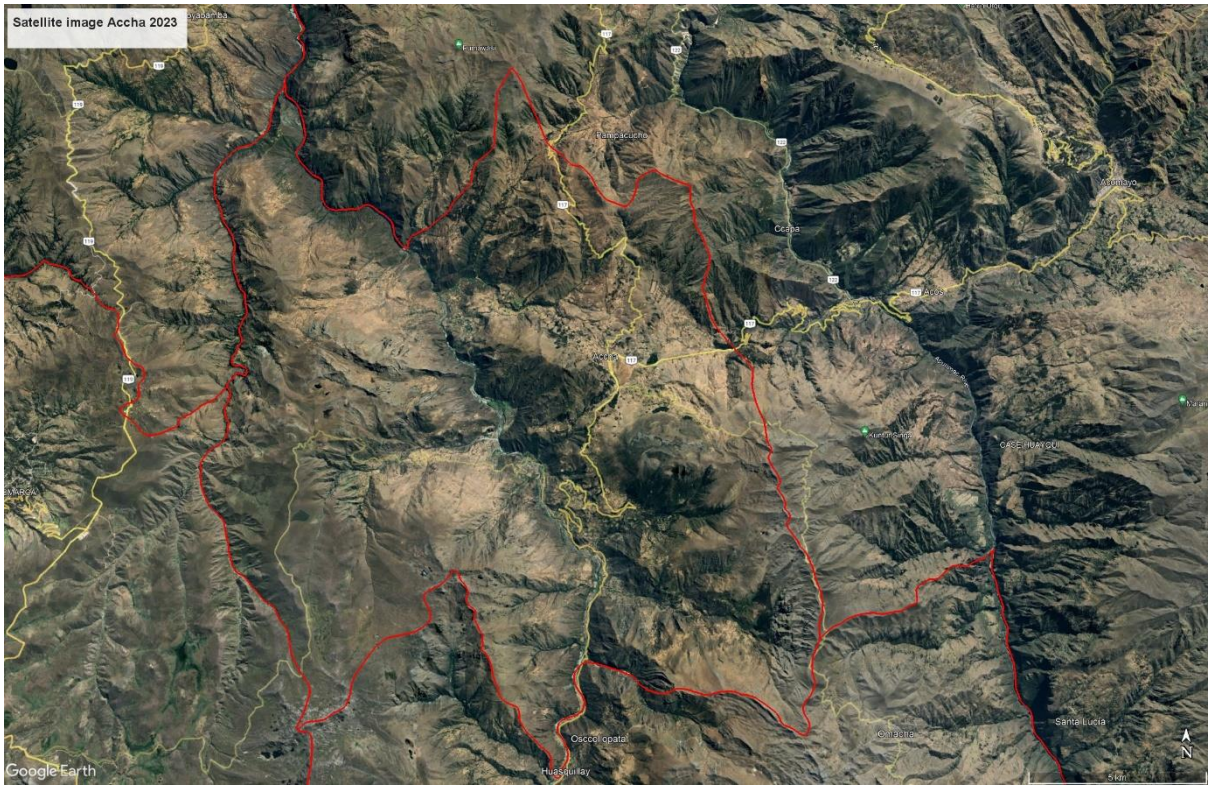


Figure 8. Satellite imagery of the Accha district (Google Earth Pro, 2023).

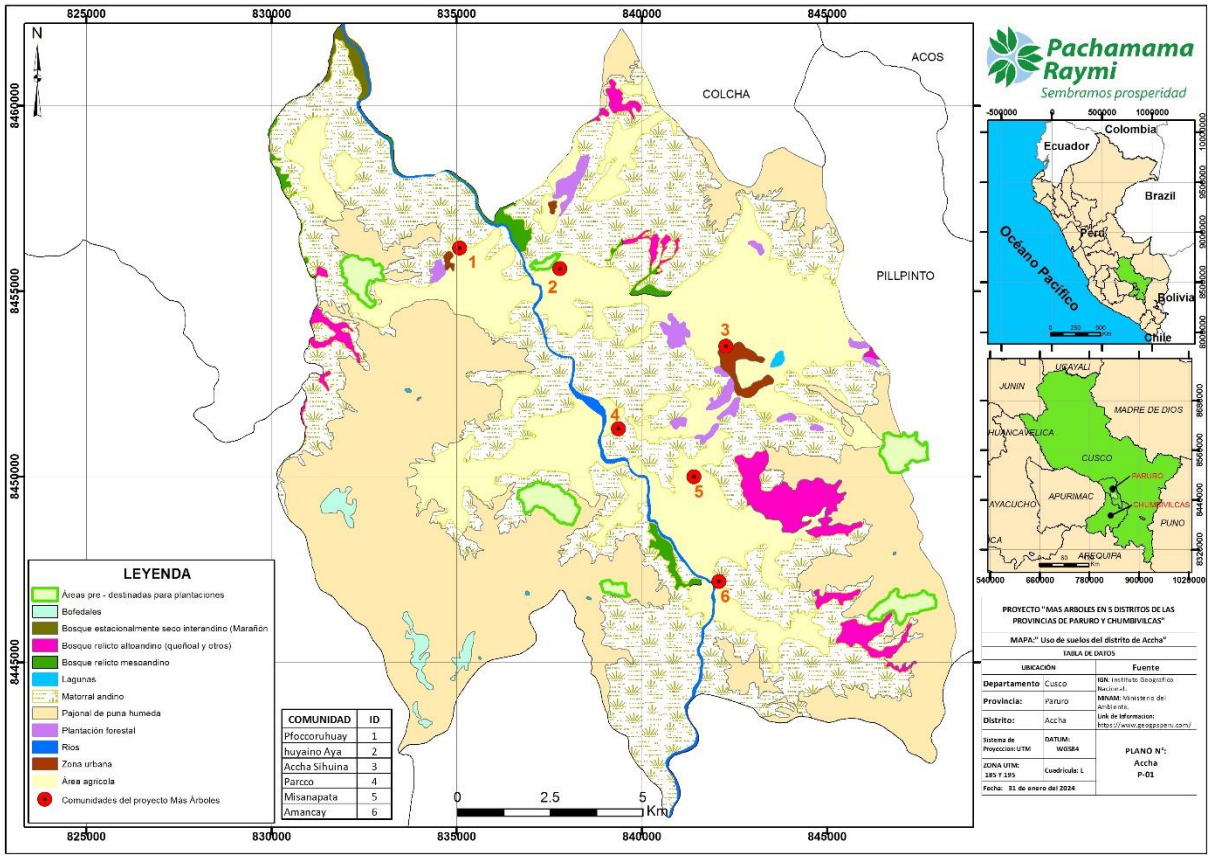


Figure 9. Present land uses in Accha district (Pachamama Raymi, 2024).

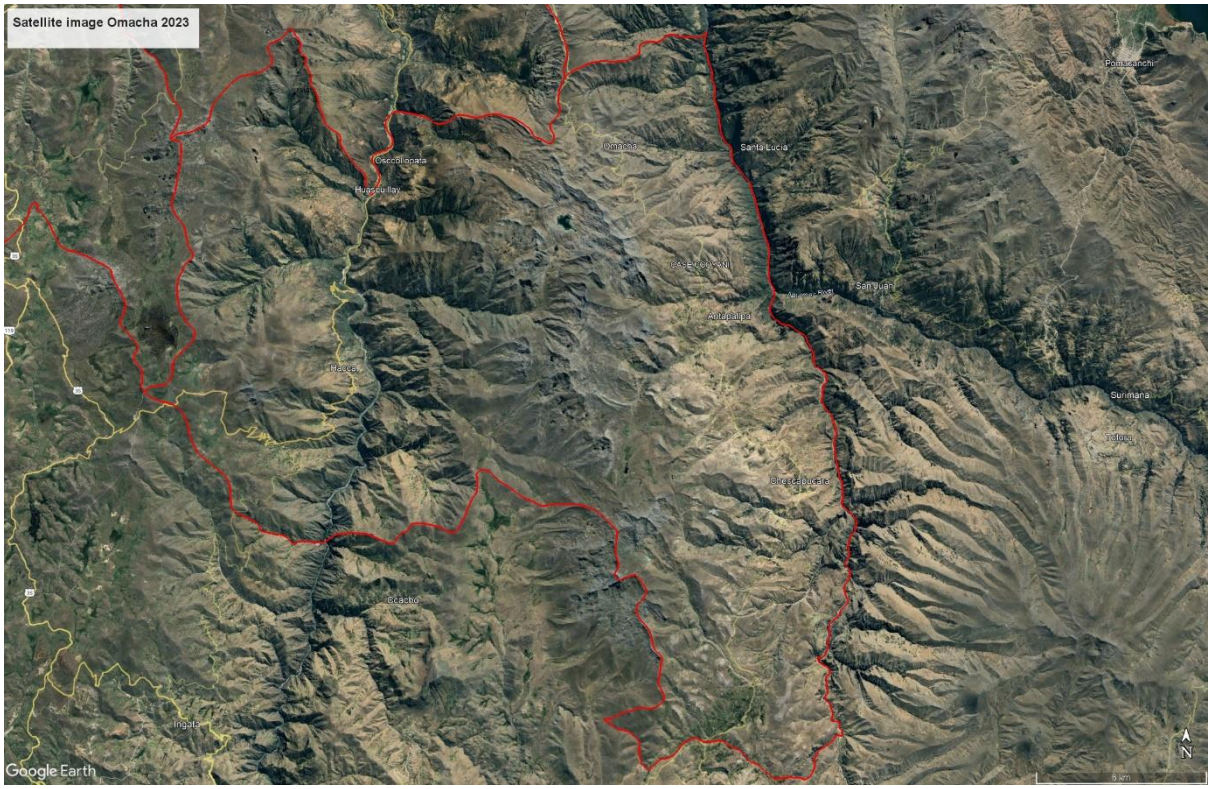


Figure 10. Satellite imagery of the Omacha district (Google Earth Pro, 2023).

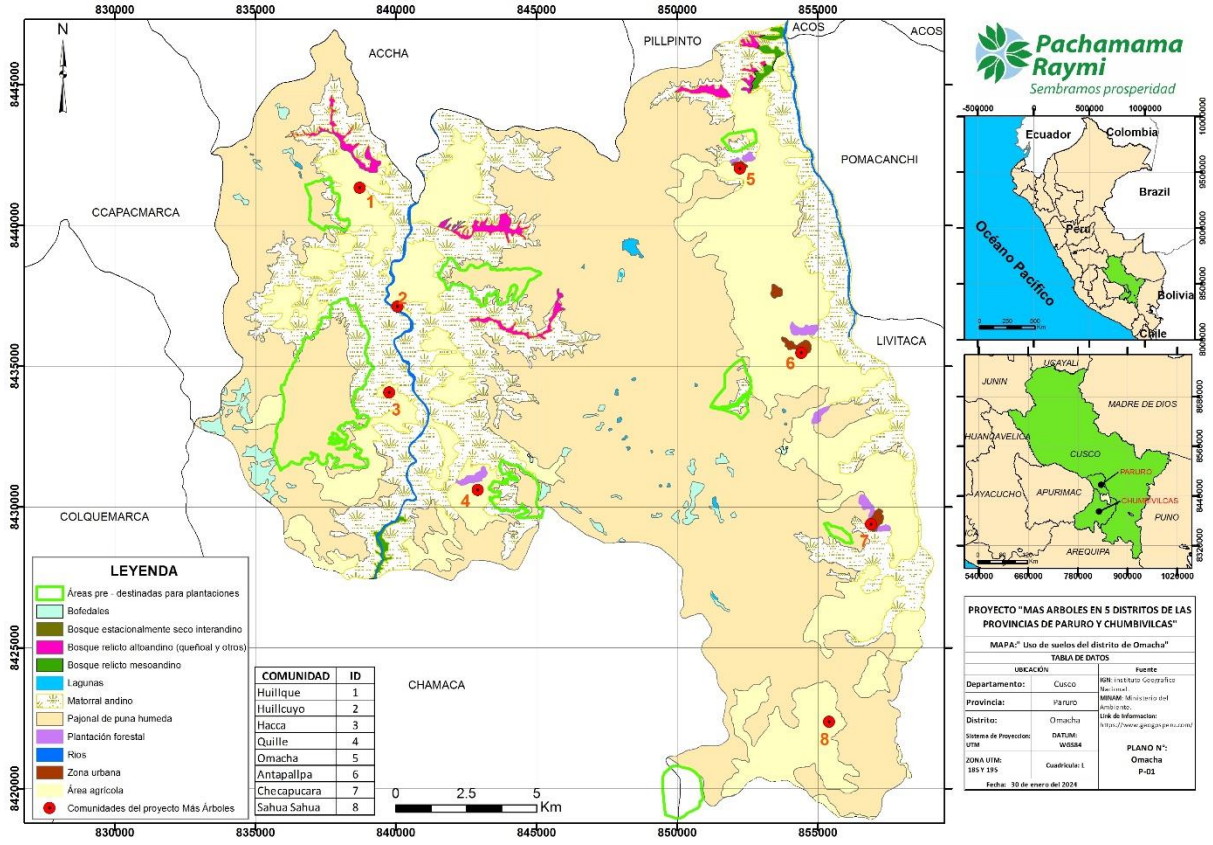


Figure 11. Present land uses in Omacha district (Pachamama Raymi, 2024).

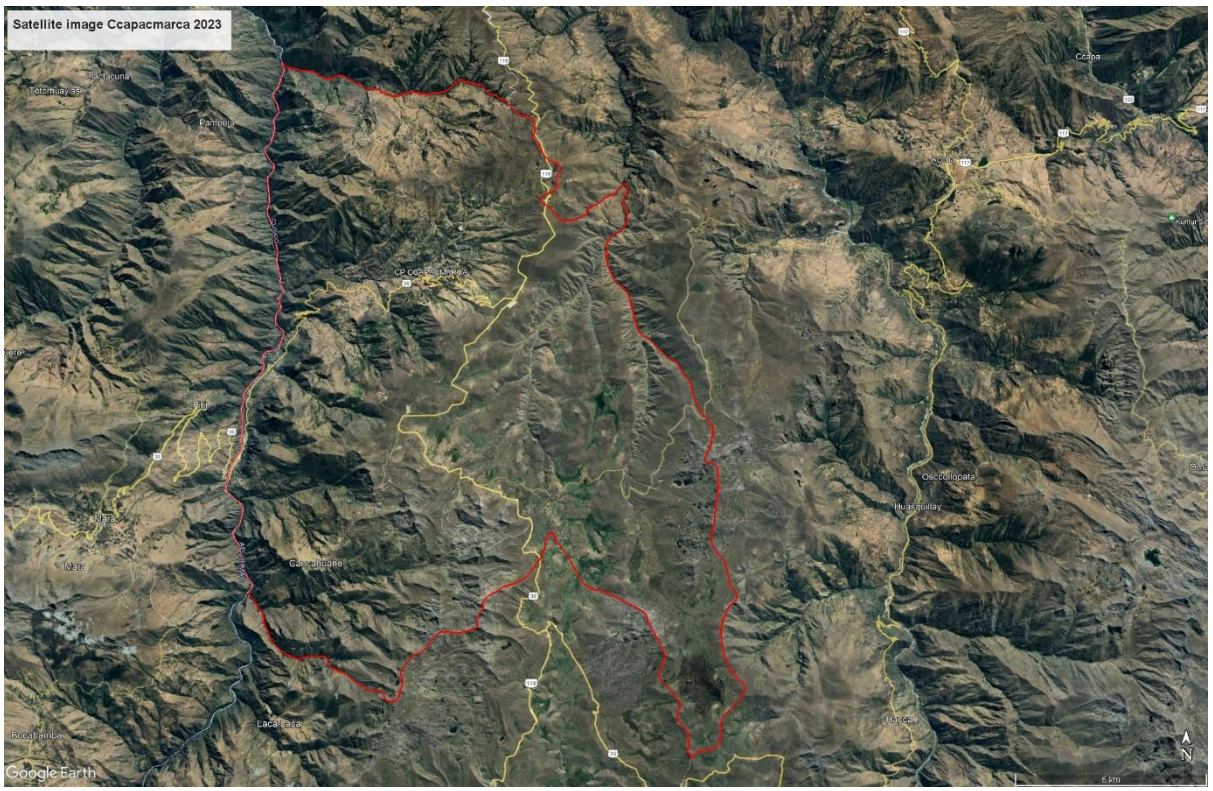


Figure 12. Satellite imagery of the Ccapacmarca district (Google Earth Pro, 2023).

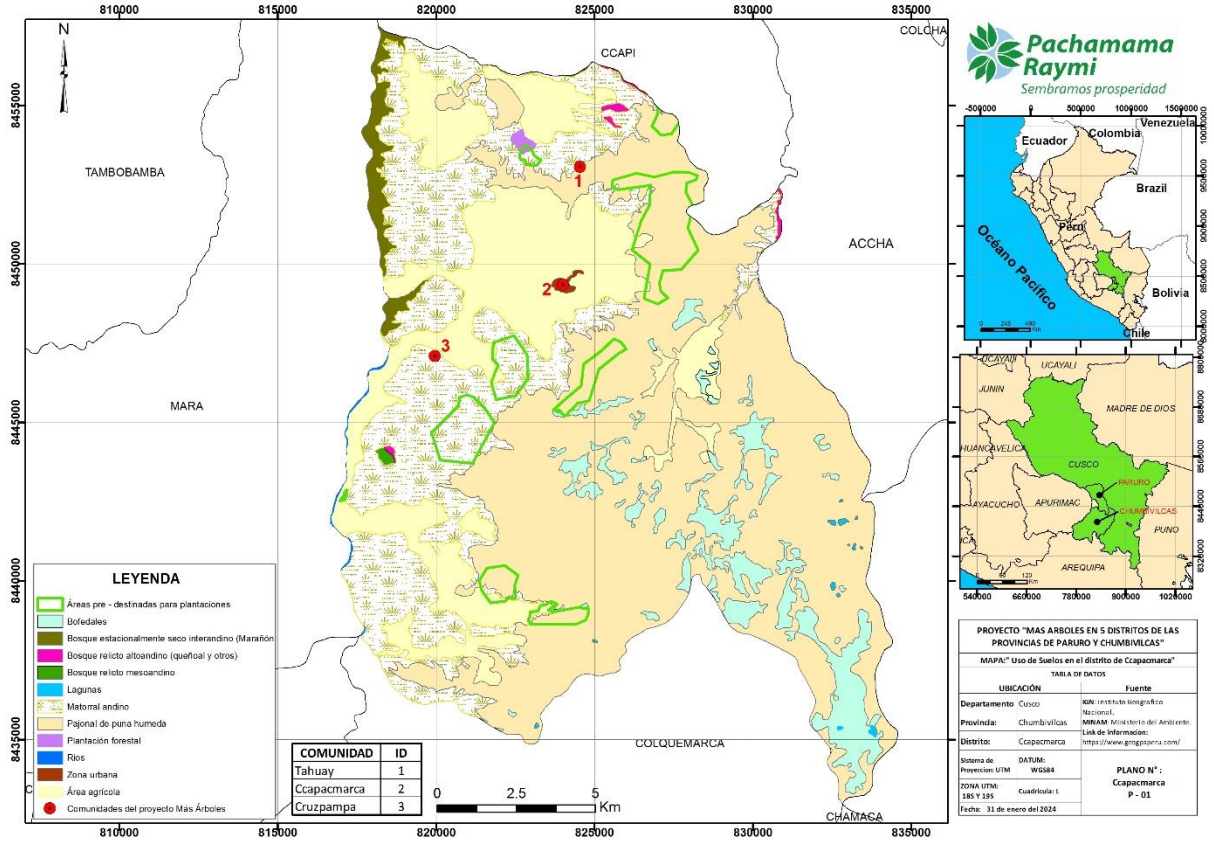
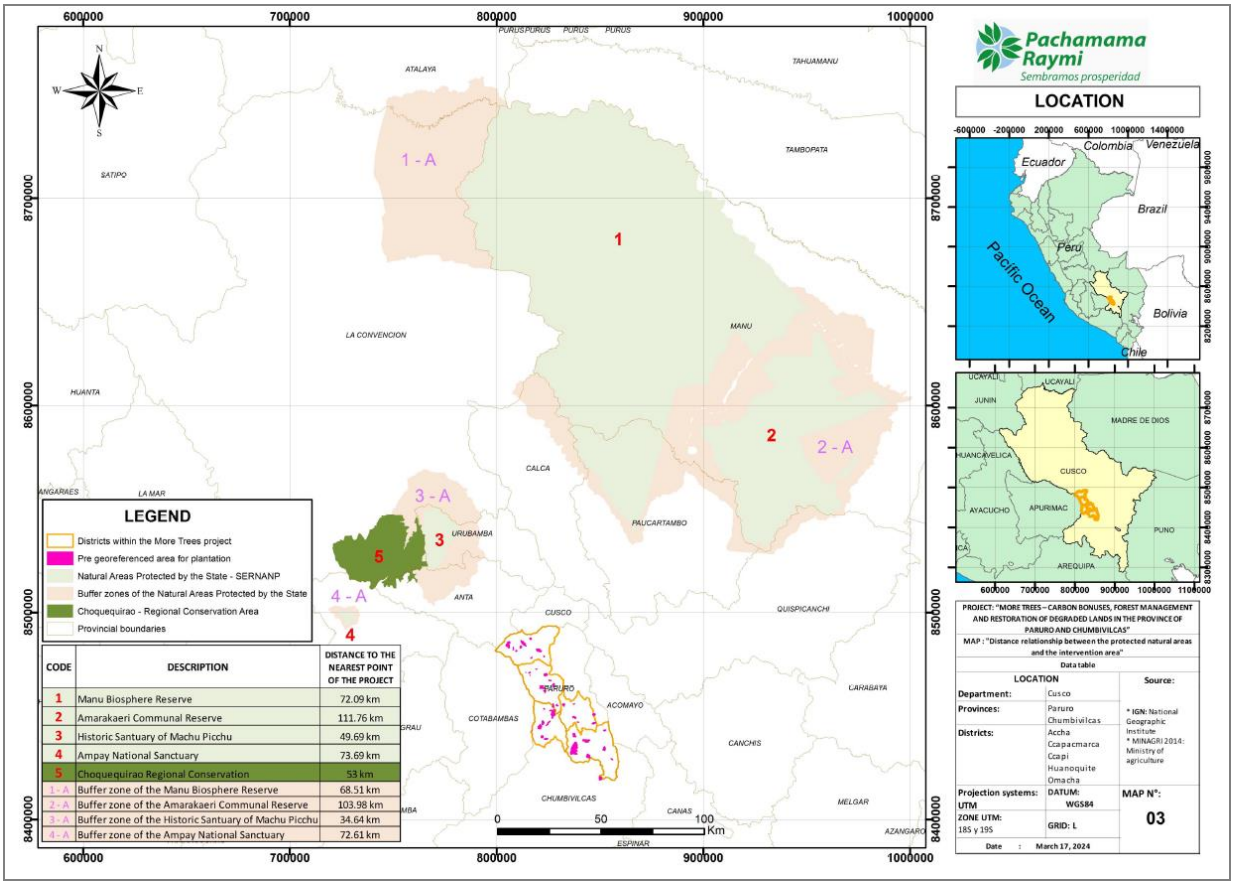


Figure 13. Present land uses in Ccapacmarca district (Pachamama Raymi, 2024).

Más Árboles Protected areas



Annex 2 –Registration Certificate

PUBLICIDAD : 7067085 Recibo Nº 2023-852-7261 CERTI. LITERAL - PJ Partida Nº 11272740

sunarp

ZONA REGISTRAL N° X - SEDE CUSCO
OFICINA REGISTRAL CUSCO
N° Partida: 11272740

INSCRIPCION DE ASOCIACIONES
SEMBRAMOS PROSPERIDAD

REGISTRO DE PERSONAS JURIDICAS
RUBRO: CONSTITUCION DE ASOCIACIONES
A00001

AS. 01.- CONSTITUCION DE ASOCIACION.- POR ESCRITURA PÚBLICA DE FECHA **21/02/2022,** OTORGADA ANTE NOTARIO PÚBLICO DE CUSCO, **CARLOS AUGUSTO SOMOCURCIO ALARCON**; SE CONSTITUYÓ LA SIGUIENTE PERSONA JURIDICA:

DENOMINACIÓN (ARTÍCULO 1°): **"SEMBRAMOS PROSPERIDAD"**

OTORGANTE:

- **WILLEM HENDRIK MATTHIJS VAN IMMERZEEL**, DE NACIONALIDAD HOLANDESA, CON CARNÉ DE EXTRANJERÍA N° **000583173**, CON GRADO DE INSTRUCCIÓN SUPERIOR - INGENIERO AGRÓNOMO, DE ESTADO CIVIL CASADA, CON DOMICILIO EN EL INMUEBLE UBICADO EN CALLE PAVITOS N° 567, DEL DISTRITO, PROVINCIA Y DEPARTAMENTO DE CUSCO.

DURACIÓN (ARTÍCULO 2°): INDEFINIDA.

INICIO DE ACTIVIDADES (ARTÍCULO 2°): A PARTIR DE SU **INSCRIPCIÓN.**

DOMICILIO (ARTÍCULO 3°): LA ASOCIACIÓN TIENE POR DOMICILIO EL INMUEBLE UBICADO EN CALLE PAVITOS 567, DISTRITO, PROVINCIA Y DEPARTAMENTO DEL CUSCO.
LA ASOCIACIÓN PODRÁ ESTABLECER FILIALES MEDIANTE ACUERDO DE ASAMBLEA GENERAL A PROPUESTA DEL CONSEJO DIRECTIVO, EN CUALQUIER OTRO LUGAR DE LA REPÚBLICA. EL ACUERDO DEBERÁ ESTABLECER LA FORMA DE OPERACIÓN DE CADA FILIAL, QUE SE REGIRÁ POR ESTE ESTATUTO Y EN COORDINACIÓN CON EL CONSEJO DIRECTIVO.

FINES (ARTICULO 4°): FINES DE LA ASOCIACIÓN SON:--- (A) ASUMIR LA MISIÓN DE CONTRIBUIR A ERRADICAR LA POBREZA.--- (B) DESARROLLAR ACTIVIDADES DE RECUPERACIÓN Y GESTIÓN AMBIENTAL.--- (C) REALIZAR ACTIVIDADES DE DESARROLLO RURAL Y URBANO CON EQUIDAD.--- (D) CONTRIBUIR A LA MEJORA DE LAS CONDICIONES DE VIDA DE LA POBLACIÓN, MEJORANDO SALUD, EDUCACIÓN, EMPLEO Y DESARROLLO ECONÓMICO.--- (E) FORTALECIMIENTO DE GOBIERNOS LOCALES PARA EL DESARROLLO ECONÓMICO Y SOCIAL, INCLUYENDO LA PARTICIPACIÓN CIUDADANA.--- (F) PROMOVER LA CULTURA Y ESTÁNDARES DE CALIDAD EN LA GESTIÓN DE GOBIERNOS LOCALES Y REGIONALES.--- (G) LA VALORIZACIÓN DE LAS CULTURAS LOCALES CON TODAS SUS EXPRESIONES.

OTRAS ACTIVIDADES (ARTICULO 5°): LA ASOCIACIÓN PARA ALCANZAR LOS FINES SEÑALADOS EN EL ARTICULO PRECEDENTE, PODRÁ REALIZAR TODA ACTIVIDAD PERMITIDA POR LEY, EL PRESENTE ESTATUTO Y QUE LOS ACUERDE LA ASAMBLEA GENERAL. ADEMÁS PODRÁ CELEBRAR CONVENIOS Y/O ACUERDOS CON OTRAS ENTIDADES, TANTO EN EL PAÍS COMO EN EL EXTRANJERO.

ORGANOS DE GOBIERNO: SON ÓRGANOS DE LA ASOCIACIÓN:
A) LA ASAMBLEA GENERAL.
B) EL CONSEJO DIRECTIVO.

ASAMBLEA GENERAL (ARTÍCULO 13°): LA ASAMBLEA GENERAL ES EL ÓRGANO SUPREMO DE LA ASOCIACIÓN Y ESTARÁ COMPUESTO POR LOS MIEMBROS ACTIVOS, QUE TENGAN EXPEDITOS SUS DERECHOS COMO TALES CON DERECHO A VOZ Y VOTO.

FACULTADES DE LA ASAMBLEA GENERAL (ARTICULO 14°):.- SON FACULTADES DE LA ASAMBLEA GENERAL: A) ELEGIR A LAS PERSONAS QUE INTEGRAN EL CONSEJO DIRECTIVO, A

Página Número 1

Resolución del Superintendente Nacional de los Registros Públicos N° 124-97-SUNARP

Pág. Solicitadas: Todas IMPRESION: 15/11/2023 08:27:15 Página 1(Sub-página 1 de 6) de 6
No existen Títulos Pendientes y/o Suspendidos Inmovilización: Ninguno

CERTIFICADOR
Zona Registral N° X - Sede Cusco

sunarp

ZONA REGISTRAL Nº X - CUSCO
Oficina Registral de CUSCO

Código de Verificación:
91074155
Solicitud N° 2023 - 6949076
09/11/2023 12:37:50

REGISTRO DE PERSONAS JURÍDICAS
LIBRO DE ASOCIACIONES

CERTIFICADO DE VIGENCIA

El servidor que suscribe CERTIFICA:

Que, en la partida electrónica N° 11272740 del Registro de Personas Jurídicas de la Oficina Registral de CUSCO, consta registrado y vigente el **poder** a favor de VAN IMMERZEEL , WILLEM HENDRICK MATTHIJS, identificado con CARNET EXTRANJERIA N° 000583173 , cuyos datos se precisan a continuación:

DENOMINACIÓN O RAZÓN SOCIAL: SEMBRAMOS PROSPERIDAD
LIBRO: ASOCIACIONES
ASIENTO: A0001
CARGO: PRESIDENTE CONSEJO DIRECTIVO (PERIODO: 2021-2025)

FACULTADES:
FUNCIONES DEL PRESIDENTE (ARTICULO 22°): EL PRESIDENTE DEL CONSEJO DIRECTIVO ES EL REPRESENTANTE DE LA ASOCIACIÓN ANTE TODA AUTORIDAD POLÍTICA ADMINISTRATIVA, JUDICIAL O EXTRAJUDICIAL TENIENDO LA MÁS AMPLIA REPRESENTACIÓN DE LA ASOCIACIÓN PUDIENDO EFECTUAR LAS FACULTADES QUE SE DETALLAN.— A) EL PRESIDENTE TIENE ENCOMENDADO EL DEBER DE EJECUTAR LAS DECISIONES DE LA ASAMBLEA GENERAL Y DEL CONSEJO DIRECTIVO DE LA ASOCIACIÓN, PRESIDE SUS REUNIONES Y DIRIGE LOS DEBATES Y DELIBERACIONES, GUIA EL ORDEN DE LOS ASUNTOS A TRATAR Y ASEGURA EL FUNCIONAMIENTO EFICAZ Y EFICIENTE DE LA ASOCIACIÓN.— B) EL PRESIDENTE ES EL REPRESENTANTE OFICIAL Y LEGAL DE LA ASOCIACIÓN SIN EMBARGO, TODOS LOS DOCUMENTOS QUE COMPROMETAN LEGALMENTE A LA ASOCIACIÓN DEBEN ESTAR FIRMADOS POR EL PRESIDENTE CONJUNTAMENTE CON EL SECRETARIO.— C) EL PRESIDENTE PUEDE, SI FUESE NECESARIO, DELEGAR PARTE DE SUS FUNCIONES PRESIDENCIALES A CUALQUIER OTRO DIRECTIVO DEL CONSEJO DIRECTIVO.— D) EL PRESIDENTE DE LA ASOCIACIÓN DEBERÁ PRESENTAR ANTE LA ASAMBLEA GENERAL ANUAL UN INFORME AMPLIO SOBRE LAS ACTIVIDADES DE LA ASOCIACIÓN Y DEL CONSEJO DIRECTIVO.— EL PRESIDENTE DEL CONSEJO DIRECTIVO ES EL REPRESENTANTE LEGAL DE LA ASOCIACIÓN Y POR TANTO PUEDE REPRESENTAR A ANTE CUALQUIER AUTORIDAD POLICIAL, JUDICIAL, ADMINISTRATIVA O FISCAL, SIN QUE SU REPRESENTATIVIDAD PUEDA SER OBJETADA, QUEDANDO INVESTIDO DE LAS FACULTADES CONTENIDAS EN LOS ARTÍCULOS 64°, 74°, 75° Y 77° DEL CÓDIGO PROCESAL CIVIL. .... TIENE LAS SIGUIENTES FACULTADES --- A) REALIZAR LA APERTURA DE ACTAS, ACLARAR CUALQUIER OBSERVACIÓN DE REGISTROS PÚBLICOS, DELEGAR DICHA FUNCIÓN EN CUALQUIER OTRO ASOCIADO. --- B) ORDENAR, EFECTUAR Y RECIBIR PAGOS, EN EFECTIVO Y/O CON OTROS MEDIOS DE PAGO, INCLUSIVE CON TÍTULOS VALORES, Y OTORGAR LOS RESPECTIVOS RECIBOS Y CANCELACIONES --- C) CELEBRAR TODO TIPO DE CONTRATOS BANCARIOS, Y REALIZAR CUALQUIER OPERACIÓN BANCARIA INCLUYENDO APERTURA Y/O CIERRE DE CUENTAS CORRIENTES, CUENTAS A PLAZO, CUENTAS DE AHORRO, CUENTAS DE CUSTODIA Y/O DEPÓSITOS DE CUALQUIER NATURALEZA, PUDIENDO DEPOSITAR O RETIRAR FONDOS, ALQUILAR, RETIRAR Y CERRAR CAJAS DE SEGURIDAD, OBSERVAR ESTADOS DE CUENTA CORRIENTE, ASÍ COMO SOLICITAR INFORMACIÓN SOBRE LAS OPERACIONES REALIZADAS EN SUS CUENTAS Y/O DEPOSITOS.--- D) GIRAR Y COBRAR CHEQUES --- E) CELEBRAR TODO TIPO DE CONTRATOS, COMPRA VENTA, ARRENDAMIENTO, COMODATO, USO, USUFRUCTO, RESPECTO DE LOS BIENES MUEBLES O INMUEBLES DE LA ASOCIACIÓN. EN FORMA PREVIA A LA SUSCRIPCIÓN DE UN CONTRATO QUE INVOLUCRE BIENES MUEBLES O INMUEBLES DE LA ASOCIACIÓN, SE DEBERA APROBAR EN FORMA PREVIA, EN ASAMBLEA GENERAL EXTRAORDINARIA, Y DEBERÁ CONSTAR EN ACTA --- F) CONSTITUIR HIPOTECAS Y LEVANTAR HIPOTECAS, RESPECTO DE LOS BIENES DE LA ASOCIACIÓN, AL IGUAL QUE EN EL CASO ANTERIOR, SE DEBERÁ CONTAR PREVIAMENTE CON LA AUTORIZACIÓN DE LA ASAMBLEA GENERAL, LA MISMA QUE CONSTARA EN ACTA.— G) CONTRATAR, NOMBRAR, REMOVER, DESPEDIR, TRASLADAR A LOS EMPLEADOS Y OPERARIOS QUE SEAN NECESARIOS, FIJAR LAS REMUNERACIONES, CONDICIONES DE TRABAJO Y MODIFICAR TALES CONDICIONES DE

Pag. 1 de 3

PIN Submission Statement of Consent

Project Coordinator Statement of Consent

I, Willem Hendrik Matthijs van Immerzeel, hereby acknowledge and confirm that the Project Idea Note (PIN) document titled " Project "More Trees"- Carbon Credits Forest management and restoration of degraded lands in the province of Paruro and Chumbivilcas- Cusco" was submitted with my full consent. I understand the contents of the PIN document and affirm that it accurately represents the project's objectives, scope, and requirements as agreed upon.

Furthermore, I acknowledge that my role as the Project Coordinator includes the responsibility to oversee the planning, execution, and monitoring of the project in accordance with the descriptions outlined in the PIN document.

I hereby affix my signature below as a confirmation of my consent and understanding:

Willem Hendrik Matthijs van Immerzeel
President of the A.C. Planting Prosperity

Cusco, February 6, 2024.

Annex 3 – Exclusion List

Activities	**Included in Project ('Yes' or 'No')**
Any project activities leading to or requiring the destruction [1] of critical habitat [2] or any forestry project which does not implement a plan for improvement and/or sustainable management.	No
Any activity which could be associated with the significant impairment of areas particularly worthy of protection of cultural heritage (without adequate compensation in accordance with international standards).	No
Trade in animals, plants or any natural products not complying with the provisions of the CITES/Washington convention [3].	No
Illegal, harvesting or trading in any wildlife resources.	No
Destructive fishing methods or drift net fishing with a net more than 2.5 km in length, explosives and/or poison.	No
Large-scale commercial logging operations for use in primary tropical moist forest.	No
Production or trade in wood or other forestry products other than from sustainably managed forests [4].	No
Exploitation of diamond mines and marketing of diamonds where the host country has not adhered to the Kimberley Process, and exploitation of other conflict minerals [5]	No
Activities involving harmful or exploitative forms of forced labour, [6] harmful child labour [7], modern slavery and human trafficking [8].	No
Projects that include involuntary physical displacement and/or forced eviction.	No
Production or activities that encroach on lands owned, or claimed or occupied by Indigenous Peoples, without full documented Free, Prior and Informed Consent (FPIC) of such peoples [9].	No
Harmful and unsafe production, use, sale or trade of pharmaceuticals, ozone layer depleting substances [10], and other toxic [11] or dangerous materials such as asbestos or products containing PCB's [12], wildlife or products regulated under CITES, including all products that are banned or are being progressively phased out internationally	No
Production or trade of arms, ammunition, weaponry, controversial weapons, or components thereof (e.g., nuclear weapons and radioactive ammunition, biological and chemical weapons of mass destruction, cluster bombs, anti -personnel mines, enriched uranium).	No
Procurement and use of firearms.	No
Provision of finances to military institutions involved in conservation or security activities.	No
Production or trade of strong alcohol intended for human consumption or other alcoholic beverages (excluding beer and wine).	No
Production or trade of tobacco and other drugs	No
Gambling, gaming establishments, casinos or any equivalent enterprises and undertaking [13].	No
Any trade related to pornography, prostitution or sexual exploitation of any form.	No
Production or trade in radioactive material. This does not apply to the procurement of medical equipment, quality control equipment or other	No

application for which the radioactive source is insignificant and/or adequately shielded	
Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.	No
Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.	No
Transboundary trade in wastes, except for those accepted by the Basel Convention and its underlying regulations [14].	No
Any activity leading to an irreversible modification or significant displacement of an element of culturally critical heritage [15].	No
Production and distribution, or investment in, media that are racist, antidemocratic or that advocate discrimination against a part of the population.	No
Projects involving the planting or introduction of invasive species	No
Projects that increase the dependency of primary participants and other stakeholders on fossil fuels.	No

Notes:

[1] Destruction means (1) the elimination or severe reduction in the integrity of a habitat/area caused by a major and long-term/prolonged change in land-use or water resources or (2) the modification of a habitat such that this habitat's ability to fulfil its function/ role is lost.

[2] The term critical habitat encompasses natural and modified habitats that deserve particular attention. This term includes (1) spaces with high biodiversity value as defined in the IUCN's classification criteria, including, in particular, habitats required for the survival of endangered species as defined by the IUCN's red list of threatened species or by any national legislation; (2) spaces with a particular importance for endemic species or whose geographical range is limited; (3) critical sites for the survival of migratory species; (4) spaces welcoming a significant number of individuals from congregatory species; (5) spaces presenting unique assemblages of species or containing species which are associated according to key evolution processes or which fulfil key ecosystem services; (6) and territories with socially, economically or culturally significant biodiversity for local communities. Primary forests or high conservation value forests must also be considered as critical habitats

[3] https://cites.org/eng/disc/text.php

[4] Sustainably managed forests are forests managed in a way that balances ecological, economic and socio-cultural needs.

[5] Conflict minerals, including tin, tungsten, tantalum and gold, can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering. See the EU Regulation on conflict minerals: https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation/regulation-explained_en

[6] Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

[7] Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's

health, or physical, mental, spiritual, moral, or social development. Employees must be at least 14 years of age, as defined in the ILO's Declaration on the Fundamental Principles and Rights at Work (C138 – Minimum Age Convention, Article 2), unless local laws require compulsory school attendance or a minimum working age. In such circumstances, the highest age requirement must be used.

[8] Modern slavery is comprised two key components: forced labour and forced marriage. These refer to situations of exploitation that a person cannot leave or refuse due to threats, violence, deception or coercion. (https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_854733.pdf)

[9] https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

[10] Any chemical component which reacts with, and destroys, the stratospheric ozone layer leading to the formation of holes in this layer. The Montreal Protocol lists Ozone Depleting Substances (ODS), their reduction targets and deadlines for phasing them out.

[11] Including substances included under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability".

[12] PCBs (polychlorinated biphenyls) are a group of highly toxic chemical products that may be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950 to 1985.

[13] Any direct financing of these projects or activities involving them (for example, a hotel including a casino). Urban improvement plans which could subsequently incorporate such projects are not affected.

[14] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal (1989).

[15] "Critical cultural heritage" is considered as any heritage element recognised internationally or nationally as being of historical, social and/or cultural interest.

Annex 4 - Environmental and Social Screening

Topic	Risk Questions	Project Coordinator Response
Environmental and Social Risks		
Vulnerable Groups	Are there vulnerable or disadvantaged groups or individuals, including people with disabilities (consider also landless groups, lower income groups less able to cope with livelihood shocks/ stresses) in the project area, and are their livelihood conditions well understood by the project?	Yes, the project area encompasses a population with generally low Human Development Index (HDI) scores, indicating a widespread presence of poverty and vulnerability. In particular, the community faces conditions of extreme poverty, and the project team has a profound understanding of their livelihoods. This understanding is derived from over 15 years of continuous engagement with these communities through various social development projects. The presence of vulnerable and disadvantaged groups, such as people with disabilities, landless groups, and individuals with lower incomes less able to cope with stresses and difficulties in their livelihoods, is acknowledged. Additionally, the project includes specific initiatives to work on urban cadastres and support residents in obtaining their property titles.
	Is there a risk that project activities disproportionately affect vulnerable groups, due to their vulnerability status?	No, the project developer has been working with these communities for over 15 years, which has provided a deep understanding of their vulnerabilities. In the case of community members without property titles, support is being provided in cadastral and legal matters, with the goal that by the end of 2024, all beneficiaries will have a legal property document supporting them as owners. Additionally, peer learning courses related to forestry activities are being planned for various groups, including youth, older adults, and women. The initiatives within the project are designed to empower and uplift vulnerable groups, mitigating any potential disproportionate impact on their well-being.
	Is there a risk that the project discriminates against vulnerable groups, for example regarding access to project services or benefits and decision-making?	The project is undergoing an engagement process with the residents, and measures are being taken to ensure that everyone is being informed about the project's development from its inception and prior to its initiation. Monthly meetings are held where community members are actively invited and supported to participate and all have the same right to vote concerning the project's development and freely express their opinion. This inclusive approach aims to prevent discrimination and ensures that vulnerable groups have equal access to project services, benefits, and decision-making processes. Moreover, there are other effective egalitarian mechanisms in the communities to prevent the formation of elites or to reduce the position of emerging elites. It is an environment where the introduction of innovations is difficult, as families that succeed easily lose their advantages due to pressure from their neighbours. The Pachamama Raymi methodology, to

		be effective in, for example, improving family incomes, must ensure that all families progress almost equally and at the same time. This prevents the formation of emerging elites that stand out from the rest of the community.
Gender equality	Is there a risk of adverse gender impacts due to the project/ project activities, including for example discrimination or creation/exacerbation or perpetuation of gender-related inequalities?	No, quite the opposite. The project considers the most disadvantaged groups, such as women, trained in nursery management, forest-related diseases, and sustainable forest practices. This aims to provide them with new skills, enabling them to secure employment or become self-sustainable once the project is completed.
	Is there a risk that project activities will result in adverse impacts on the situation of women or girls, including their rights and livelihoods? Consider for example where access restrictions disproportionately affect women and girls due to their roles and positions in accessing environmental goods and services?	There is no risk, as forestry activities require the delicate handling of seedlings, a task in which women play an essential role. It has been proven that in Andean and native communities in Peru, the work in nurseries and plantations highlights the significance of women's roles due to their expertise in handling seedlings. It is important to note that the involvement of girls or minors in these activities is not considered. Furthermore, the role and safety of women are taken into account during work sessions. The organization of women workers is comprehensive, as while some engage in fieldwork, others take care of the children in the community. This way, the entire community, especially women and girls, is included in the project, ensuring their access to the goods and services provided by the project. This structure guarantees that there are no disproportionate restrictions negatively affecting women and girls, focusing on promoting the active and secure participation of all community members.
	Is there a risk that project activities could cause or contribute to gender-based violence, including risks of sexual exploitation, sexual abuse or sexual harassment (SEAH)? Consider partner and collaborating partner organizations and policies they have in place. Please describe.	The project activities are designed to operate within forest productive systems, and overall, they are not expected to cause or contribute to gender-based violence. However, it is essential to note that the implementation of the plantations is part of a broader social development project that includes capacity building in various areas. Specifically, there is a direct focus on respecting women and children within households. The communities promote healthy living conditions and foster respect among family members. A crucial aspect involves the consideration of the "girls' room," emphasizing that it should be separate from their parents and other household environments. This underscores the importance of ensuring a safe and respectful environment for all family members. However, it's important to recognize that while Western thought seeks to empower women, in these ancestral communities, gender roles are very different, which may

		lead to conflicts within families in the short to medium term
Human Rights	Is there a risk that the project prevents peoples from fulfilling their economic or social rights, such as the right to life, the right to self-determination, cultural survival, health, work, water and adequate standard of living?	No, quite the opposite. The project involves a participatory social development process aiming to strengthen human, social, economic, and environmental capital, along with governance. Local authorities are actively involved, ensuring the presence of a local actor external to the project that advocates for citizens. This ensures transparency regarding their social rights and contributes to preserving and promoting the fulfilment of fundamental rights, such as the right to life, self-determination, cultural survival, health, work, water, and an adequate standard of living.
	Is there a risk that the project prevents peoples from enjoying their procedural rights, for example through exclusion of individuals or groups from participating in decisions affecting them?	No, quite the opposite. The project actively commits to promoting inclusive participation of individuals and groups in decisions that affect them. Transparency, open dialogue, and inclusion are encouraged, ensuring that all voices are heard. This not only strengthens democratic processes but also enhances the quality of decisions made, thus contributing to the overall well-being and sustainable success of the project.
	Are you aware of any severe human rights violations linked to project partners in the last 5 years?	No, there have been no reported or documented severe human rights violations associated with any of the project partners in the last 5 years.
Community, Health, Safety & Security	Is there a risk of exacerbating existing social and stakeholder conflicts through the implementation of project activities? Consider for example existing conflicts over land or natural resources, between communities and the state.	Yes, a risk exists. Participating farmers communities have defined territorial boundaries in their ownership documents. Decisions by participants are made in Communal Assemblies. In the event of a conflict, the bordering area is excluded from eligibility for establishing plantations until the dispute is resolved. To anticipate potential conflicts, alliances have been formed with farmers communities and the district municipal authority for the project's development. Additionally, the project is developed on large tracts of land with low economic value due to the high level of degradation it exhibits, lowering the risk of conflict. Furthermore, there is a risk of conflict with communities not involved in the project regarding zoning and income diversification from project activities. Therefore, it is important to develop medium and long-term activities to include new communities.
	Does the project provide support (technical, material, financial) to law enforcement activities? Consider support to government agencies and to Community Rangers or members conducting monitoring and patrolling. If so, is there a risk that these activities will harm	The risk is considered low. The project operates within the governance management of Farmers Communities through communal assemblies, their board of directors, and their forest committee, and through agreements with District Municipalities. Any decision regarding support will be made by consensus.

	communities or personnel involved in monitoring and patrolling?	
	Are there any other activities that could adversely affect community health and safety? Consider for example exacerbating human-wildlife conflict, affecting provisioning ecosystem services, and transmission of diseases.	No, there are no anticipated activities that could negatively impact community health and safety. It's worth noting that these exotic species from the forest plantation have been implemented in the high Andean regions since the 1970s, and no health issues or conflicts with wildlife have been reported during this period. The project takes into consideration this historical context to minimize potential adverse effects and ensures the well-being and safety of the community.
Labour and working conditions	Is there a risk that the project, including project partners, would lead to working conditions for project workers[8] that are not aligned with national labour laws or the International Labor Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work (discriminatory working conditions, lack of equal opportunity, lack of clear employment terms, failure to prevent harassment or exploitation, failure to ensure freedom of association etc.)?	No, there is no such risk. The project and its partners are committed to aligning with national labor laws, particularly the Texto Único Ordenado del Decreto Legislativo N.° 728, Ley de Productividad y Competitividad Laboral, and the International Labor Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work. Working conditions for project workers are ensured to comply with these standards, promoting non-discriminatory practices, equal opportunities, clear employment terms, prevention of harassment or exploitation, and the protection of the freedom of association, among other fundamental principles and rights.
	Is there an occupational health and safety risk to project workers while completing project activities?	No, there is considered to be a low risk. Project activities are conducted within the Occupational Health and Safety Policy "*Sembramos Prosperidad".*
	Is there a risk that the project support or be linked to forced labour, harmful child labour, or any other damaging forms of labour?	No, there is no such risk. The project is firmly committed to preventing and avoiding forced labour, harmful child labour, or any other damaging forms of labour. All project activities adhere to national and international labour laws, including regulations outlined by the International Labour Organization (ILO), ensuring ethical and responsible labour practices throughout the project's implementation.
Resource efficiency, pollution, wastes, chemicals and GHG emissions	Is there a risk that project activities might lead to releasing pollutants to the environment, cause significant amounts of waste or hazardous waste or materials?	No, there is a very low risk as no chemical agents will be used before, during, and in the monitoring of the plantation. Pachamama Raymi nor Sembramos Prosperidad have ever used chemical fertilizers (such as NPK) since the establishment of the organization in 2008. They do encourage the use of compost at the time of planting the saplings and when growth stagnates. In

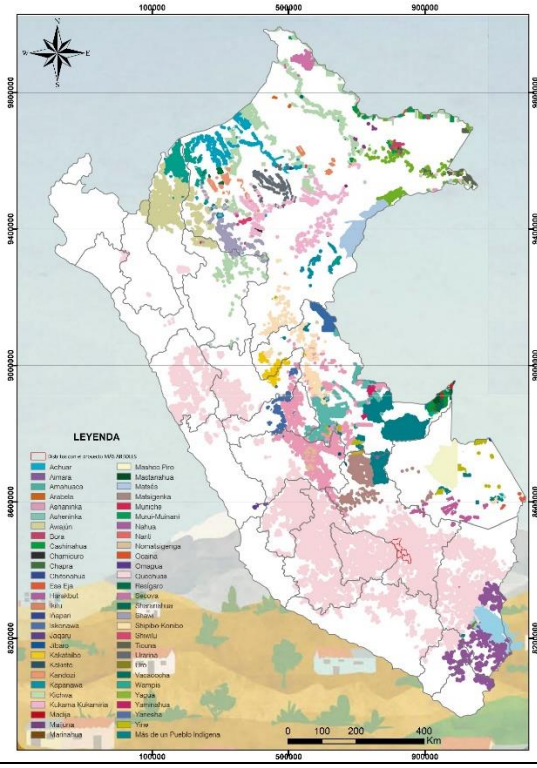
[8] Project workers include project coordinator staff, staff of other project partners, third party groups fulfilling core functions of the project, and community volunteers or contracted workers.

		addition, boron is applied in the nurseries and in the plantation when growth defects show up. The project is committed to environmentally friendly practices, ensuring minimal impact on the environment and preventing the release of pollutants or significant amounts of waste.
	Is there a risk that the project will lead to significant consumption of energy, water or other resources, or lead to significant increases of greenhouse gases?	The project is designed for carbon capture and global emissions reduction. There is no significant risk associated with the project leading to substantial consumption of energy or other resources. For the water resources, the project is aware that the (re-) introduction of tree species may represent additional water consumption on the ecosystem. Therefore, the project includes the planting and conservation of native plants in the upper basins and near water bodies in order to retain water and improve its quality. The primary focus is on sustainable practices that contribute to environmental conservation and climate change mitigation.
Access restrictions and livelihoods	Will the project include activities that could restrict peoples' access to land or natural resources where they have recognised rights (customary, and legal). Consider projects that introduce new access restrictions (e.g. creation of a community forest), reinforce existing access restrictions (e.g. improve management effectiveness and patrolling of a community forest) , or alter the way that land and natural resource access restrictions are decided (e.g. through introducing formal management such as co-management).	There won't be any actions that impede individuals' access to land or natural resources where they hold established rights, whether customary or legal. In zones designated for plantations and conservation however, access for other activities than the intended ones will be restricted. This enhances the risk of conflict with community members not participating in the project. The zoning exercise mitigates this risk, since it clearly designates all community land areas to certain activities, guaranteeing sufficient land for all community members. There is always a possibility that other stakeholders, such as municipalities or SERFOR, might not agree with the zoning plans. However, the communities are rather averse from organizations telling them what to do. One component of the Pachamama Raymi methodology is increasing people's self-esteem, making them more resistant against pressures from outside actors. As the project takes place on communal lands only, communities are sovereign to decide what happens here. The communities have long-standing organizational structures and are knowledgeable about their entitlements. This organizational setup guarantees members' compliance to the zonation. As rural communities have their legal status and make their main decisions in monthly general assemblies, they have the full authority on their land. Potential other actors who might disagree and sometimes have influence in the communities are the "residents". Residents are individuals/families who previously lived in the community but have moved to a city and may still believe they have voice and vote as they did when they were community members. Clearly disseminating information about the legal status of residents generally resolves this issue. In some cases, it is

		necessary to have a lawyer present at the assemblies to clarify that while residents may have a house in the community, they are no longer community members and do not have the right to voice or vote.
	Is there a risk that the access restrictions introduced /reinforced/altered by the project will negatively affect peoples' livelihoods?	There is no risk to people's livelihoods. The introduced, reinforced, or altered access restrictions primarily pertain to smaller animals. This aspect has been collaboratively addressed with the community members, who are aware that smaller animals can potentially damage seedlings and consume edible mushrooms crucial to their economy. The restrictions are implemented with mutual understanding and consideration for the overall well-being of both the community and the project objectives. As the project will affect at maximum, but not necessarily, only 20% of the communal lands, the remainder of the land will remain available to those community members who choose not to participate (according to the communities' own zoning decisions, of course). As the majority of the communal lands consist of degraded grassy lands, there is no risk of leakage in healthy, natively vegetated areas.
	Have strategies to avoid, minimise and compensate for these negative impacts been identified and planned?	Yes, strategies have been collaboratively identified and planned to address and minimize potential negative impacts related to smaller animals. One of the key measures implemented is the zoning of communal areas, which includes dedicated spaces for the raising of smaller animals. This zoning process is carried out in the monthly community assembly, where the proposal from the board of directors for zoning is discussed, adapted, adopted, modified, or rejected. Specifically, the proposal identifies where forest plantations will be located, which areas will be designated for grazing, and which areas will be protected due to their coverage of native species. These decisions are documented in the minutes book with the corresponding details. The role of Sembramos Prosperidad is limited to requesting time in the assembly to address the issue if the board of directors has not included it in the agenda. Since the zonation is established through consensus with the community, it is ensured that the management of smaller animals aligns with the overall objectives of the project while respecting the community's practices and livelihoods.
Cultural heritage	Is the Project Area officially designated or proposed as a cultural site, including international and national designations?	No.
	Does the project site potentially include important physical cultural resources, including burial sites and monuments, or natural	Yes, The Cusco was the capital of the Inca Empire, making it difficult not to find archaeological sites in the region. Within communal areas, Inca terraces or platforms, as well as an archaeological site and an area traversed by one of the Inca roads, have been identified. All of these

	features or resources of cultural significance (e.g. sacred sites and species, ceremonial areas) and is there risk that the project will negatively impact this cultural heritage?	sites are mapped by the Ministry of Culture and are considered intangible zones. Therefore, the project is taking necessary measures to avoid planting in these areas, complying with national regulations. The project is committed to taking necessary distancing measures from the cultural sites, following the guidelines provided by the Ministry of Culture (MINCUL). A comprehensive file will be submitted to MINCUL to demonstrate compliance with Regulation LEY Nº 28296 Ley General del Patrimonio Cultural de la Nación regarding the non-impact registration of archaeological assets that may be present. This ensures that the project is actively addressing and mitigating any potential negative impacts on cultural heritage.
	Is there a risk that the project will negatively impact intangible cultural heritage? Consider for example cultural practices, social and cultural norms in relation to land and natural resources.	No, there is no risk that the project will negatively impact intangible cultural heritage. The project is actively respecting and taking into account ancestral knowledge, cultural practices, and social norms related to land and natural resources. By doing so, it ensures that these invaluable aspects of intangible cultural heritage are preserved and honoured throughout the project's implementation.
Indigenous Peoples	Are there Indigenous Peoples[9] living within the Project Area, using the land or natural resources within the project area, or with claims to land or territory within the Project Area?	The farmers communities participating in the Project are registered in the database of Indigenous or native peoples recognized by the State as Quechua. Indigenous or native peoples are those groups that have their origins before the establishment of the State, inhabit this country or region, retain all or part of their distinctive institutions, and also have a collective consciousness of possessing an indigenous or native identity. Currently, 55 Indigenous native peoples have been identified in Peru, with 51 from the Amazon and 4 from the Andes. The project communities are all located within the Quechua people of the Andes, which is the only Indigenous group in the 5 districts included in the project (see figure below). All participating communities are officially recognized by the State as Indigenous peoples (Quechua), and all 4439 families from these communities identify as Quechua. Approximately 8 million Peruvians identify themselves as Quechua. While most men in rural areas speak Spanish, many women, who rarely travel to town, may be monolingual in Quechua. Language and dress are considered crucial in preserving traditional culture. The Quechua concept of *pachakuti*, a "turning over" of the world and time (pacha), envisions a time when the pre-colonial order, currently beneath the earth,

[9] As per the IUCN Environmental and Social Management System, Indigenous Peoples include: "(i) peoples who identify themselves as "indigenous" in strict sense; (ii) tribal peoples whose social, cultural, and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations; and (iii) traditional peoples not necessarily called indigenous or tribal but who share the same characteristics of social, cultural, and economic conditions that distinguish them from other sections of the national community, whose status is regulated wholly or partially by their own customs or traditions, and whose livelihoods are closely connected to ecosystems and their goods and services" (IUCN 2016).

		will return (kuti) to power. This belief serves as a source of inspiration for Quechua Indigenous organizations. Government policy in Peru has historically supported the cultural survival of the country's Quechua population. During the populist period (1930-50), governments promoted various folkloric festivals and organizations. The radical military government of General Juan Velasco (1968-75) employed extensive neo-Incaic symbolism. It also promoted bilingual education and recognized Quechua as an official language in areas with a high proportion of Quechua speakers. Additionally, the military government introduced new legislation to protect the lands of Indigenous communities. Highland Indigenous communities were redefined as farmers communities (MRG, n.d.). 
	Is there a risk that the project negatively affects Indigenous Peoples through economic displacement, negatively affects their rights (including right to FPIC), their self-determination, or any other social or cultural impacts?	There is no risk of displacement, as they are an integral and active part of the project. Concerning their rights, including the right to Free, Prior, and Informed Consent (FPIC), a participatory process was conducted before the project's initiation for the potential implementation of a carbon project in these areas. During this process, Public Consultation-Presidency of the Council of Ministers / Significant Consultation with Stakeholders was considered, following the guidelines of the IADB Series on environmental and social risk and opportunity. Furthermore, it is ensured that throughout the project's development, implementation, and continuous monitoring, this process of public consultation will be sustained to maintain active community participation and safeguard their rights.

	Is there a risk that there is inadequate consultation of Indigenous Peoples, and/or that the project does not seek the FPIC of Indigenous Peoples, for example leading to lack of benefits or inappropriate activities?	No, there is no such risk. The project followed a participatory process, including consultations with Indigenous Peoples, and ensured that their Free, Prior, and Informed Consent (FPIC) was obtained before any activities were implemented. It's essential to note that the Peruvian government actively supports and promotes these consultation measures, and the local communities are well-informed about their rights in this context.
Biodiversity and sustainable use of natural resources	Is there a risk that project activities will cause adverse impacts on biodiversity (both in areas of high biodiversity value, and outside of these areas) or the functioning of ecosystems? Consider issues such as use of pesticides, construction, fencing, disturbance etc.	No, there is no significant risk that project activities will cause adverse impacts on biodiversity. The project areas are already for 90% moderately to severely degraded, with minimal remnants of Andean native forests The degradation classification is made by SENAMHI (Servicio Nacional de Meteorología e Hidrología del Perú, 2014), which classifies moderate erosion as 1.01-50 MT soil loss ha-1 year-1, high erosion as 51-200 MT soil loss ha-1 year-1 and severe erosion as >201 MT soil loss ha-1 year-1. Considering the land's highest use capacity, it is classified as forest land, making it suitable for a project aimed at economically empowering and sustaining these communities through timber plantations with pine. Additionally, the project is committed to landscape restoration and ecosystem regeneration. For the zoning of the communal lands no physical barriers such as fences will be used. Instead, the communities implement - by their own choice - fines for any damage to plantations or conservation areas by livestock. Zoning has always been part of the communal land use distribution. As part of a core initiative under the Más Árboles project, 10% of the project area will be dedicated to native species and managed as conservation areas to preserve biodiversity and support natural regeneration particularly near water bodies. This includes the active restoration of riparian zones in accordance with Peru's regulation on marginal strips (R.J. Nº 153-2016-ANA), which mandates protected buffer zones (3–25 m) around water bodies. The 10% target is informed by Pachamama Raymi's six years of experience attempting to reintroduce native trees like tara, intimpa, and tall cedar—efforts that faced high mortality rates. Although achieving this target is ambitious, growing expertise and protection of existing native vegetation (where no active regeneration is needed) make it feasible.
	Is there a risk that the project will introduce non-native species or invasive species?	The project involves the introduction of exotic species, specifically Pinus radiata and Pinus patula, constituting 20% of the total area owned by the communities. It is important to note that these species have adapted to the high Andean zones of Peru since the 1970s, and extensive evidence demonstrates that they are not invasive and do not cause harmful effects on the landscape or biodiversity

		(Lopez & Gonzalez, 1980, Resteau & Cabrera, 2018). The selection of these species aligns with the project's commitment to environmental sustainability.
	Is there a risk that the project will lead to the unsustainable use of natural resources? Consider for example projects promoting value chains and natural resource-based livelihoods.	No, there is no risk of the project leading to the unsustainable use of natural resources. The project is comprehensive, including capacity-building initiatives for community members to access new employment opportunities. Additionally, the land-use zoning prevents any misuse, ensuring the responsible and sustainable utilization of resources. This holistic approach safeguards against any detrimental impacts on natural resources.
Land tenure and conflicts	Has the land tenure and use rights in the project area been assessed and understood?	Yes, the land tenure and use rights in the project area have been thoroughly assessed and understood. The project has conducted a comprehensive examination of the legal and customary aspects related to land tenure, ensuring a clear understanding of the rights and responsibilities of the communities involved. Additionally, an inventory of the current state of each beneficiary's land has been compiled, and the project is actively engaged in providing individualized support to ensure inclusive and sustainable land use practices. This assessment and ongoing support are integral to the project's commitment to responsible and community-driven land management.
	Is there a risk that project activities will exacerbate any existing land tenure conflicts, or lead to land tenure or use right conflicts?	While there is always some level of risk, the project actively works to minimize any potential exacerbation of existing land tenure conflicts or the emergence of new conflicts. Continuous engagement with the communities and transparent communication through public hearings are essential components of the project. These practices aim to ensure clarity and address any doubts promptly. In the event of conflicts, resolution processes will be carried out within the framework of legal and historical considerations, with the support of local government authorities. This approach underscores the project's commitment to responsible and inclusive land management.
Risk of not accounting for climate change	Have trends in climate variability in the project areas been assessed and understood?	Yes, an assessment and understanding of climate variability trends in the project areas have been conducted. Both local residents and the NGO *Sembramos Prosperidad* have witnessed the annual impacts of climate change, particularly during the occurrence of the El Niño phenomenon, characterized by intense drought periods resulting in losses of up to 100% in agricultural crops in these regions. Forest plantations, comprising naturalized species, have proven to be more resilient to these climate impacts. Nevertheless, saplings are vulnerable to drought. Therefore, hydrogel is applied to the root systems of the saplings when leaving the nursery for planting in order to withstand dry spells during the 1st season. No additional

		strategy has been implemented to ensure the survival of the plants in their early years in the event of an El Niño phenomenon, as geographical conditions and the very extensive plantations make irrigation too difficult. In conclusion, the strategy involves hydrogel used on the sapling roots to protect them from potential drought and limited irrigation of the nurseries using stored water reserves, thereby ensuring the survival of the seedlings during adverse climatic conditions.
	Has the climate vulnerability of communities and particular social groups been assessed and understood?	Yes, indeed, the populations targeted for positive impact by the project are recognized as among the most vulnerable to the effects of climate change. The residents are well aware of this vulnerability, which is why they actively engage with local governments in adopting adaptation measures outlined by the national and regional authorities to enhance their resilience. The role of the NGO *Sembramos Prosperidad* is to align with these measures, facilitating a collaborative effort among all stakeholders to contribute to the comprehensive and resilient development of these communities.
	Is there a risk that climate variability and changes might influence the effectiveness of project activities (e.g. undermine project-supported livelihood activities) or increase community exposure to climate variation and hazards? Consider floods, droughts, wildfires, landslides, cyclones, etc.	Yes, there is a potential risk that climate variability and changes could influence the effectiveness of project activities. In the intervention area, drought is the most concerning risk for the population. The central government is implementing the MERISS Plan and will launch the Regional Program "Construction of storage and regulation systems through dams as an adaptation strategy to climate change in the provinces of the Cusco region." This will significantly contribute to empowering these families. Regarding landslides, the project will contribute to their reduction as the plantation will be carried out in highland areas, thus protecting settlements and agricultural crops in the lower parts. The project's strategy aims to make consensus-based decisions with the local population to jointly identify the best strategies to make them more resilient, ensuring that project activities are not adversely affected.
Other – e.g. cumulative impacts	Is there a risk that the project will contribute cumulatively to existing environmental or social risks or impacts, for example through introducing new access restrictions in a landscape with existing restrictions and limited land availability?	There is a medium to minimal risk that the project may cumulatively contribute to existing environmental or social risks or impacts, such as introducing new access restrictions in a landscape with existing limitations and limited land availability. This is because the project only restricts access to grazing. However, this restriction is safeguarded by zoning within community areas, always with the consensus of community members. Access to land will not be limited for the local community, as the plantations will be established in mountainous areas where agricultural activities are not typically conducted. All of this falls within the framework of territorial management and land planning in the communities,

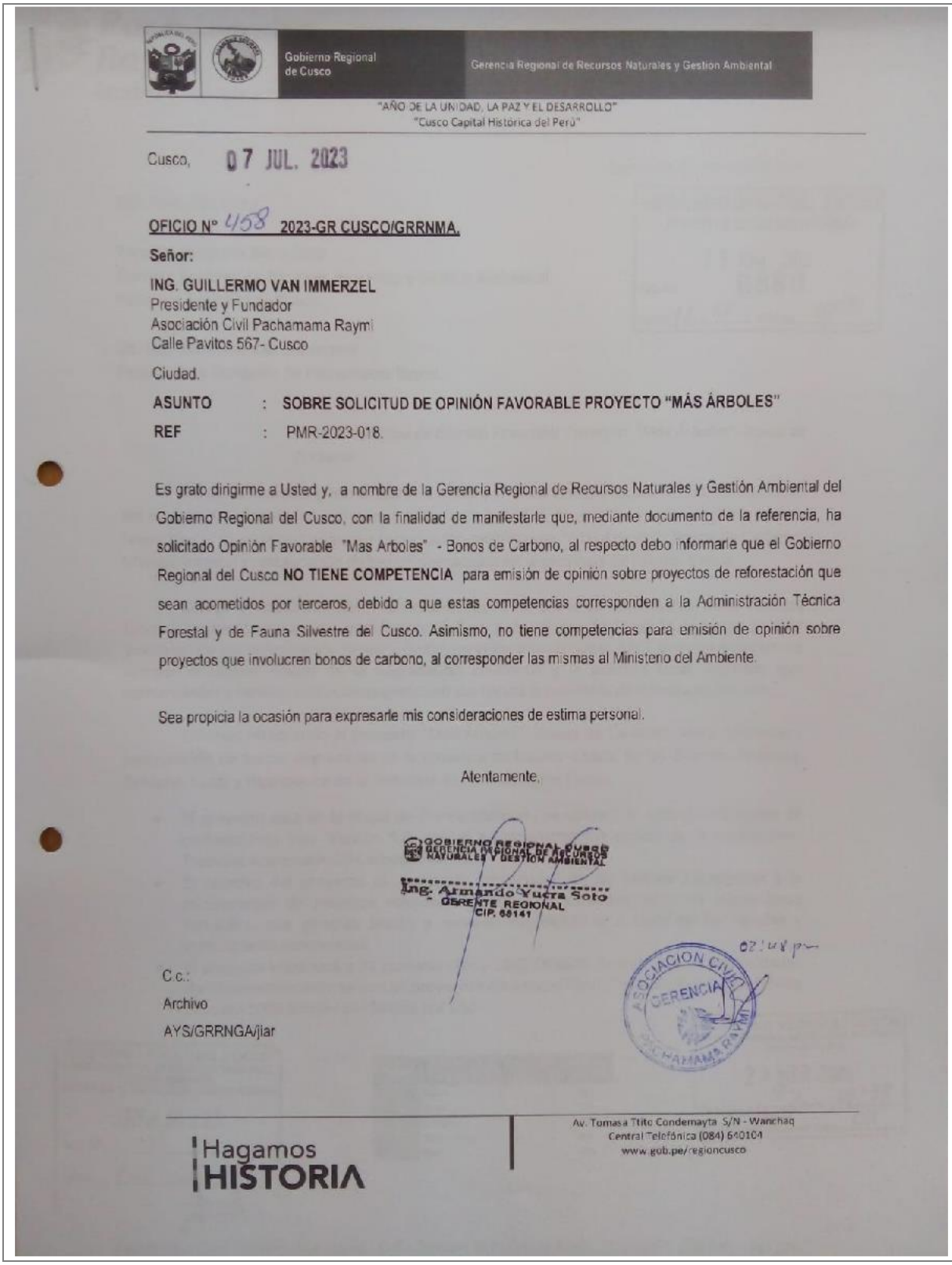
		following national guidelines and in agreement with local authorities.
	Are there any other environmental and social risks worthy of note that are not covered by the topics and questions above?	A latent risk of which the project developers are aware is related to the attitude of non-participating community members. The inequality of wealth in the medium or long term could potentially lead to conflicts. Therefore, active efforts are being made to engage with them in other types of social development projects.
Safeguard Provisions		
Stakeholder engagement	Has a stakeholder analysis been conducted that has identified all stakeholders that could influence or be affected by the project, or is this still to be completed? Please describe.	No, a stakeholder analysis has not been conducted yet; however, Sembramos Prosperidad is currently in the process of completing this task. So far, there is a preliminary identification of stakeholders, including farmers communities, district municipal authority, Regional Government, SERFOR-Forest and Wildlife Technical Administration Cusco (ATFFS), Ministry of the Environment (MINAM), National Agrarian Health Service (SENASA), Geological, Mining and Metallurgical Institute, among others. The project has been presented in comprehensive multi-sectoral meetings in the districts. Once the stakeholder engagement plan is finalized, it will be outlined how Sembramos Prosperidad will facilitate the integration of all identified stakeholders in the project design and how to measure the impact of the project on all these stakeholders.
	Are the local community and indigenous peoples statutory or customary rights to land or resources within the project area already clear and documented, or is further assessment required? Please describe.	By now, all communities have completed the transfer of land registration from the Agrarian Institute to SUNARP; However, the data for three communities still need to be updated regarding the inscription of their newly elected board members. All 35 communities can now participate in the project.
	Are local governance structures and decision-making processes described and understood (including details of the involvement of women and marginalized or vulnerable groups), or is further assessment required? Please describe.	The structure of local governance and decision-making within the farmers communities is outlined in the General Law of Farmers Communities and its Regulation, Law No. 26845. The participating farmers communities in the project understand and implement these laws as described. The project enhances the understanding and implementation of the law and its governance through workshops and training. Additionally, the project will support farmers communities in strengthening the participation of women and marginalized or vulnerable groups.
	Are past or ongoing disputes over land or resources in the project area known and	Yes, past and present disputes over territorial boundaries within farmers communities in the project area known

	documented, or is there need for further assessment? Please describe.	and documented. These areas are not eligible for project development until the disputes are resolved.
Stakeholder consultation	Does the project have a Stakeholder Engagement Plan with clear measures to engage Vulnerable Groups, or is this plan still to be developed? Please describe.	No, the project does not currently have a Stakeholder Engagement Plan with clear measures to engage vulnerable groups. However, we are currently in the process of developing such a plan, expected to be ready by the end of the first semester of 2024.
	Has the Project Coordinator informed all stakeholders of the project, through providing relevant project information in an accessible format, or does this still need to be completed? Please describe.	Yes, in 2023, communal meetings were conducted in farmers communities to present the project as part of the Prior, Free, and Informed Consent (PFIC) process. During these meetings, the list of participants was recorded, pamphlets were distributed, and consultations and/or grievances were addressed. There are minutes documenting the communities' acceptance of participation in the project. Agreements have been signed with district municipalities for the project's development during the current government's term. Consultations were also made with national agencies regarding the project's feasibility.
Free, Prior and Informed Consent	Has the project analysed and understood national and international requirements for Free Prior and Informed Consent (FPIC)? Please describe.	Yes, the project has thoroughly analysed and understood both national and international requirements for Free, Prior, and Informed Consent (FPIC). This includes compliance with Peruvian regulations as well as adherence to international standards, such as those outlined in the IDB Series on environmental and social risk and opportunity. The project recognizes the importance of respecting the rights of local communities and Indigenous Peoples, ensuring that FPIC is obtained before initiating any project activities. The analysis has been comprehensive, taking into account legal frameworks, cultural sensitivities, and the principles outlined in various international guidelines related to FPIC.
	Has the project identified potential FPIC rightsholders and potential representatives in local communities and among indigenous peoples, or is this still to be completed? Please describe.	Yes, the project will be implemented entirely on communal lands owned by communities. The organization of farmers communities in Peru is regulated by Law 24656, known as the General Law of Farmers Communities. The central bodies of these communities are the general assembly of community members and the communal directive. The decentralized bodies are organized for each existing annex within the community, namely, the local administration board and the annex local assembly. Under this structure, it has been straightforward for *Sembramos Prosperidad* to work with the communities. All these instances are duly documented, and accurate records of contacts and established relationships are maintained to facilitate effective collaboration.

	Has the project worked with rightsholders and representatives of local communities and indigenous peoples to understand the local decision-making process and timeline (ensuring involvement of women and vulnerable groups), or is this still to be completed? Please describe.	Yes, the project has worked with farmers communities that are considered eligible, meaning those with legal personality and land ownership. The decision-making process is based on the General Law of Farmers Communities and its Regulation, Law No. 26845. Efforts are being made to strengthen the participation of women and marginalized or vulnerable groups. The timeline takes into account the validity of the communal legal personality, which varies between 1 and 2 years.
	Has the project sought consent from communities to 'consider the proposed Project', and if so, where is this in principle consent documented? Please describe.	Yes, in 2023, communal meetings were held in farmers communities to present the project. As part of the Prior, Free, and Informed Consent (PFIC) process, the list of participants, distribution of pamphlets, consultations, and/or grievances were documented. Minutes are recording the communities' acceptance of participation in the project. Agreements have been signed with district municipalities for a 3-year period for the project's development.
Grievance Mechanism	Does the project already have a Grievance Mechanism, or is this still to be established? Please describe.	At present, we have a form for submitting complaints or suggestions regarding the general activities carried out by *Sembramos Prosperidad*. However, we acknowledge the importance of having a formal protocol for the Grievance Redress Mechanism (GRM), which is in process
	For projects with a GRM, is this accessible to project affected people? Please describe.	At the moment, the complaint form we have is accessible to all those affected by the project. Accessibility is facilitated through the local administration boards and during the general community assemblies.

Annex 5 – Notification of Relevant Authorities

Correspondence Regional Government of Cusco (only 1/3 pages, whole document is available to request)



Gobierno Regional de Cusco — Gerencia Regional de Recursos Naturales y Gestion Ambiental

"AÑO DE LA UNIDAD, LA PAZ Y EL DESARROLLO"
"Cusco Capital Histórica del Perú"

Cusco, 07 JUL. 2023

OFICIO N° 458 2023-GR CUSCO/GRRNMA.

Señor:

ING. GUILLERMO VAN IMMERZEL
Presidente y Fundador
Asociación Civil Pachamama Raymi
Calle Pavitos 567- Cusco

Ciudad.

ASUNTO : **SOBRE SOLICITUD DE OPINIÓN FAVORABLE PROYECTO "MÁS ÁRBOLES"**

REF : PMR-2023-018.

Es grato dirigirme a Usted y, a nombre de la Gerencia Regional de Recursos Naturales y Gestión Ambiental del Gobierno Regional del Cusco, con la finalidad de manifestarle que, mediante documento de la referencia, ha solicitado Opinión Favorable "Mas Arboles" - Bonos de Carbono, al respecto debo informarle que el Gobierno Regional del Cusco **NO TIENE COMPETENCIA** para emisión de opinión sobre proyectos de reforestación que sean acometidos por terceros, debido a que estas competencias corresponden a la Administración Técnica Forestal y de Fauna Silvestre del Cusco. Asimismo, no tiene competencias para emisión de opinión sobre proyectos que involucren bonos de carbono, al corresponder las mismas al Ministerio del Ambiente.

Sea propicia la ocasión para expresarle mis consideraciones de estima personal.

Atentamente,

GOBIERNO REGIONAL CUSCO
GERENCIA REGIONAL DE RECURSOS NATURALES Y GESTION AMBIENTAL
Ing. Armando Yucra Soto
GERENTE REGIONAL
CIP. 68141

02:48 p.m.

ASOCIACIÓN CIVIL PACHAMAMA RAYMI
GERENCIA

C.c.:
Archivo
AYS/GRRNGA/jlar

Hagamos HISTORIA

Av. Tomasa Ttito Condemayta S/N - Wanchaq
Central Telefónica (084) 640104
www.gob.pe/regioncusco

Cooperation agreement District Municipality of Accha (only 1/5 pages, whole document is available to request)

MUNICIPALIDAD DISTRITAL
ACCHA
CREADO POR LEY N° 802 - 1857

CONVENIO DE COOPERACIÓN INTERINSTITUCIONAL ENTRE LA MUNICIPALIDAD DISTRITAL DE ACCHA Y LA ASOCIACIÓN CIVIL PACHAMAMA RAYMI NRO. 002-2023

Suscriben el presente convenio de cooperación interinstitucional, para ejecutar actividades de fortalecimiento de capacidades y plantaciones forestales con la metodología Pachamama Raymi, en comunidades del ámbito del Distrito de Accha:

La **Municipalidad Distrital de Accha** con **RUC N°20158906903**, con domicilio legal en la Plaza de Armas s/n del Distrito de Accha, Provincia de Paruro, de la Región de Cusco debidamente representado por su Alcalde **SAÚL MAMANI NINA** identificado con documento nacional de identidad **N° 46010660** a quien en adelante se le denominará "**LA MUNICIPALIDAD**".

La Asociación Civil Pachamama Raymi, con **RUC N° 20450578798**, con domicilio legal en Calle Pavitos Nro. 567, Cusco, debidamente representada por su Presidente y Fundador el **SR WILLEM HENDRIK MATTHIJS VAN IMMERZEEL**, con Carnet de Extranjería Nro. 000583173, y por su Secretaria **SRA. DANIELA MILAGROS QUIROZ FARFÁN** identificada con DNI No. 47784953 según nombramientos registrados en el Asiento A00011 de la Partida No. 11074927 y con facultades inscritas en el Asiento A00007 de la referida Partida del Registro de Personas Jurídicas de la Oficina Registral de Cusco, a quien en adelante se le denominará "**PACHAMAMA RAYMI**".

II.- ANTECEDENTES

LA MUNICIPALIDAD, es una persona jurídica de derecho público creado por Ley, que ejerce sus atribuciones con autonomía política, económica y administrativa en los asuntos de su competencia de conformidad al artículo N° 194 de la Constitución Política del Perú y la Ley orgánica de Municipalidades - Ley N° 27972. Facultad que radica en ejercer actos de gobierno administrativos y de administración con sujeción al ordenamiento jurídico, tal y conforme establece la constitución política del estado y.

Pachamama Raymi, es una asociación civil sin fines de lucro, creada el 24 de marzo del 2008 en la ciudad del Cusco con partida registral 11074927 de la SUNARP Cusco (10 de junio de 2008), sin afiliación religiosa, política ni gubernamental, que ha creado y está ejecutando proyectos para erradicar la pobreza rural y plantaciones forestales utilizando la metodología Pachamama Raymi.

III. BASE LEGAL

La celebración del presente Convenio se realiza en mérito a la presente normativa.

- Constitución Política del Perú de 1.993
- Ley de Bases de la descentralización – Ley N° 27783
- Ley orgánica de Municipalidades – Ley N° 27972
- Ley del presupuesto del sector público para el año fiscal 2.012-Ley N° 29812
- Ley Marco de Administración Financiera – Ley N° 28112
- Ley General del Sistema Nacional de Presupuesto – Ley N° 28411
- Ley de responsabilidad y Transparencia Fiscal – Ley N° 27245 modificada por la Ley N° 27958 y su reglamento.
- Otros que sean aplicables al objeto del presente Convenio

-1

Plaza de Armas s/n Accha - Paruro - Cusco 957 331 433 muniacchai@gmail.com "Obras hacen historia"

Cooperation agreement District Municipality of Ccapacmarca (only 1/5 pages, whole document is available to request)

Municipalidad Distrital de Ccapacmarca
CHUMBIVILCAS - CUSCO - PERU
"Samay Kawsanapaq, Promoviendo un Distrito Productivo y Ecológico"
Periodo Gestión Municipal: 2023 -2026

CONVENIO N° 001-2023

Convenio de Cooperación Interinstitucional Entre la Municipalidad Distrital de Ccapacmarca y la Asociación Civil Pachamama Raymi, Aprender de los Mejores

Conste por el presente documento de Convenio de Cooperación Interinstitucional, para ejecutar actividades de fortalecimiento de Capacidades con la metodología de Pachamama Raymi, en las comunidades del ámbito del Distrito de Ccapacmarca, que suscriben de una parte:

La **Municipalidad Distrital De Ccapacmarca**, con domicilio legal en La Plaza de Armas s/n del Distrito de Ccapacmarca, Provincia de Chumbivilcas, de la Región de Cusco, debidamente representado por su Alcaldesa Mag. Lucinda Llanos Cuba identificada con documento nacional de identidad N°42196510, autorizado por Acuerdo del Concejo Municipal N°22 -2023-MDCC/A. a quien en adelante se le denominara **"LA MUNICIPALIDAD"**.

La **Asociación Civil Pachamama Raymi, "Aprender de los Mejores"**, con RUC N° 20450578798, representado por su Presidente Willem H.M. Van Immerzeel, con Carné de Extranjería N° 000583173, con teléfono 084-236540, cel. 958-194132 y domiciliado en la Calle Pavitos 567, Cusco, que en adelante se le denominará **"PACHAMAMA RAYMI"**.

CLAUSULA PRIMERA: ANTECEDENTES

LA MUNICIPALIDAD, es una persona jurídica de derecho público creado por Ley, que ejerce sus atribuciones con autonomía política, económica y administrativa en los asuntos de su competencia de conformidad al artículo N° 194 de la Constitución Política del Perú y la Ley orgánica de Municipalidades - Ley N° 27972. Facultad que radica en ejercer actos de gobierno, administrativos y de administración con sujeción al ordenamiento jurídico, tal y conforme establece la constitución política del estado y.

Pachamama Raymi, es una Asociación Civil sin fines de lucro, creada el 24 de marzo del 2006 en la ciudad del Cusco con partida registral 11074927 de la SUNARP Cusco (10 de junio de 2008), sin afiliación religiosa, política ni gubernamental, que ha creado y está ejecutando proyectos para erradicar la pobreza rural utilizando la metodología Pachamama Raymi.

CLAUSULA SEGUNDA: BASE LEGAL

La celebración del presente Convenio se realiza en mérito a la presente normativa:

- Constitución Política del Perú de 1993
- Ley de Bases de la descentralización – Ley N° 27783
- Ley orgánica de Municipalidades – Ley N° 27972
- Ley del presupuesto del sector público para el año fiscal 2012-Ley N° 29812
- Ley Marco de Administración Financiera – Ley N° 28112
- Ley General del Sistema Nacional de Presupuesto – Ley N° 28411
- Ley de responsabilidad y Transparencia Fiscal – Ley N° 27245 modificada por la Ley N° 27958 y su reglamento.
- Otros que sean aplicables al objeto del presente Convenio

Cooperation agreement District Municipality of Ccapi (only 1/6 pages, whole document is available to request)

MUNICIPALIDAD DISTRITAL DE CCAPI
PARURO - CUSCO
Gobierno del bicentenario, una gestión para todos...

Convenio de Cooperación Interinstitucional entre la Municipalidad Distrital de Ccapi y la Asociación Civil Pachamama Raymi Nro. 002-2023

Suscriben el presente convenio de cooperación interinstitucional, para ejecutar actividades de fortalecimiento de capacidades y plantaciones forestales con la metodología Pachamama Raymi, en comunidades del ámbito del Distrito de Ccapi:

La **Municipalidad Distrital de Ccapi**, con domicilio legal en La Plaza de Armas s/n del Distrito de Ccapi, Provincia de Paruro, de la Región de Cusco, debidamente representado por su Alcalde Raúl Contreras Monge identificado con documento nacional de identidad N°47860346 a quien en adelante se le denominará **"LA MUNICIPALIDAD".**

La Asociación Civil Pachamama Raymi, con RUC N° 20450578798, con domicilio legal en Calle Pavitos Nro. 567, Cusco; debidamente representada por su Presidente y Fundador el Sr Willem Hendrik Matthijs Van Immerzeel, con Carnet de Extranjería Nro. 000583173, y por su Secretaria Sra. Daniela Milagros Quiroz Farfán identificada con DNI No. 47784953 según nombramientos registrados en el Asiento A00011 de la Partida No. 11074927 y con facultades inscritas en el Asiento A00007 de la referida Partida del Registro de Personas Jurídicas de la Oficina Registral de Cusco, a quien en adelante se le denominará **"PACHAMAMA RAYMI".**

II.- Antecedentes

LA MUNICIPALIDAD, es una persona jurídica de derecho público creado por Ley, que ejerce sus atribuciones con autonomía política, económica y administrativa en los asuntos de su competencia de conformidad al artículo N° 194 de la Constitución Política del Perú y la Ley orgánica de Municipalidades - Ley N° 27972. Facultad que radica en ejercer actos de gobierno, administrativos y de administración con sujeción al ordenamiento jurídico, tal y conforme establece la constitución política del estado y.

Pachamama Raymi, es una asociación civil sin fines de lucro, creada el 24 de marzo del 2008 en la ciudad del Cusco con partida registral 11074927 de la SUNARP Cusco (10 de junio de 2008), sin afiliación religiosa, política ni gubernamental, que ha creado y está ejecutando proyectos para erradicar la pobreza rural y plantaciones forestales utilizando la metodología Pachamama Raymi.

III. Base Legal

La celebración del presente Convenio se realiza en mérito a la presente normativa.

- Constitución Política del Perú de 1.993
- Ley de Bases de la descentralización – Ley N° 27783
- Ley orgánica de Municipalidades – Ley N° 27972
- Ley del presupuesto del sector público para el año fiscal 2.012-Ley N° 29812
- Ley Marco de Administración Financiera – Ley N° 28112
- Ley General del Sistema Nacional de Presupuesto – Ley N° 28411
- Ley de responsabilidad y Transparencia Fiscal – Ley N° 27245 modificada por la Ley N° 27958 y su reglamento.
- Otros que sean aplicables al objeto del presente Convenio

municipalidaddistritaldeccapi@gmail.com https://muniCcapi.gob.pe Gestión 2023 - 2026

Cooperation agreement District Municipality of Huanoquite (only 1/5 pages, whole document is available to request)

Convenio de Cooperación Interinstitucional entre la Municipalidad Distrital de Huanoquite y la Asociación Civil Pachamama Raymi Nro. 001-2023

Suscriben el presente convenio de cooperación interinstitucional, para ejecutar actividades de fortalecimiento de capacidades y plantaciones forestales con la metodología Pachamama Raymi, en comunidades del ámbito del Distrito de Huanoquite:

La **Municipalidad Distrital de Huanoquite**, con domicilio legal en La Plaza de Armas s/n del Distrito de Huanoquite, Provincia de Paruro, de la Región de Cusco, debidamente representado por su Alcalde Daniel Cusimayta Gutiérrez identificado con documento nacional de identidad N° 23913895, quien en adelante se le denominará "**LA MUNICIPALIDAD**".

La Asociación Civil Pachamama Raymi, con RUC N° 20450578798, con domicilio legal en Calle Pavitos Nro. 567, Cusco; debidamente representada por su Presidente y Fundador el Sr Willem Hendrik Matthijs Van Immerzeel, con Carnet de Extranjería Nro. 000583173, y por su Secretaria Sra. Daniela Milagros Quiroz Farfán identificada con DNI No. 47784953 según nombramientos registrados en el Asiento A00011 de la Partida No. 11074927 y con facultades inscritas en el Asiento A00007 de la referida Partida del Registro de Personas Jurídicas de la Oficina Registral de Cusco, a quien en adelante se le denominará **"PACHAMAMA RAYMI"**.

II.- Antecedentes

LA MUNICIPALIDAD, es una persona jurídica de derecho público creado por Ley, que ejerce sus atribuciones con autonomía política, económica y administrativa en los asuntos de su competencia de conformidad al artículo N° 194 de la Constitución Política del Perú y la Ley orgánica de Municipalidades - Ley N° 27972. Facultad que radica en ejercer actos de gobierno, administrativos y de administración con sujeción al ordenamiento jurídico, tal y conforme establece la constitución política del estado y

Pachamama Raymi, es una asociación civil sin fines de lucro, creada el 24 de marzo del 2008 en la ciudad del Cusco con partida registral 11074927 de la SUNARP Cusco (10 de junio de 2008), sin afiliación religiosa, política ni gubernamental, que ha creado y está ejecutando proyectos para erradicar la pobreza rural y plantaciones forestales utilizando la metodología Pachamama Raymi.

III. Base Legal

La celebración del presente Convenio se realiza en mérito a la presente normativa.

- Constitución Política del Perú de 1.993
- Ley de Bases de la descentralización – Ley N° 27783
- Ley orgánica de Municipalidades – Ley N° 27972
- Ley del presupuesto del sector público para el año fiscal 2.012-Ley N° 29812
- Ley Marco de Administración Financiera – Ley N° 28112
- Ley General del Sistema Nacional de Presupuesto – Ley N° 28411
- Ley de responsabilidad y Transparencia Fiscal – Ley N° 27245 modificada por la Ley N° 27958 y su reglamento.
- Otros que sean aplicables al objeto del presente Convenio

-1

Cooperation agreement District Municipality of Omacha (only 1/5 pages, whole document is available to request)

MUNICIPALIDAD DISTRITAL DE
OMACHA
Gestión 2023 - 2026

CONVENIO DE COOPERACIÓN INTERINSTITUCIONAL ENTRE LA MUNICIPALIDAD DISTRITAL DE OMACHA Y LA ASOCIACIÓN CIVIL PACHAMAMA RAYMI NRO. 002-2023

Suscriben el presente convenio de cooperación interinstitucional, para ejecutar actividades de fortalecimiento de capacidades y plantaciones forestales con la metodología Pachamama Raymi, en comunidades del ámbito de Distrito de Omacha:

La **Municipalidad Distrital de Omacha**, con domicilio legal en La Plaza de Armas s/n del Distrito de Omacha, Provincia de Paruro, de la Región de Cusco, debidamente representado por su Alcalde Ronald Oviedo Huamani identificado con documento nacional de identidad N° 45617121 a quien en adelante se le denominará **"LA MUNICIPALIDAD"**.

La Asociación Civil Pachamama Raymi, con RUC N° 20450578798, con domicilio legal en Calle Pavitos Nro. 567 Cusco; debidamente representada por su Presidente y Fundador el Sr Willem Hendrik Matthijs Van Immerzeel, con Carnet de Extranjería Nro. CC0563173, y por su Secretaria Sra. Daniela Milagros Quiroz Farfán identificada con DNI No. 47784953 según nombramientos registrados en el Asiento A00011 de la Partida No. 11074927 y con facultades inscritas en el Asiento A00007 de la referida Partida del Registro de Personas Jurídicas de la Oficina Registral de Cusco, a quien en adelante se le denominará **"PACHAMAMA RAYMI"**.

II.- Antecedentes

LA MUNICIPALIDAD, es una persona jurídica de derecho público creado por Ley, que ejerce sus atribuciones con autonomía política, económica y administrativa en los asuntos de su competencia de conformidad al artículo N° 194 de la Constitución Política del Perú y a Ley orgánica de Municipalidades - Ley N° 27972 Facultad que radica en ejercer actos de gobierno, administrativos y de administración con sujeción al ordenamiento jurídico, tal y conforme establece la constitución política del estado y.

Pachamama Raymi, es una asociación civil sin fines de lucro, creada el 24 de marzo del 2008 en la ciudad del Cusco con partida registral 11074927 de la SUNARP Cusco (10 de junio de 2008) sin afiliación religiosa, política ni gubernamental, que ha creado y está ejecutando proyectos para erradicar la pobreza rural y plantaciones forestales utilizando la metodología Pachamama Raymi.

III. Base Legal

La celebración del presente Convenio se realiza en mérito a la presente normativa.

- Constitución Política del Perú de 1993
- Ley de Bases de la descentralización – Ley N° 27783
- Ley orgánica de Municipalidades – Ley N° 27972
- Ley del presupuesto del sector público para el año fiscal 2012-Ley N° 29812
- Ley Marco de Administración Financiera – Ley N° 28112
- Ley General del Sistema Nacional de Presupuesto – Ley N° 28411
- Ley de responsabilidad y Transparencia Fiscal – Ley N° 27245 modificada por la Ley N° 27958 y su reglamento.
- Otros que sean aplicables al objeto del presente Convenio

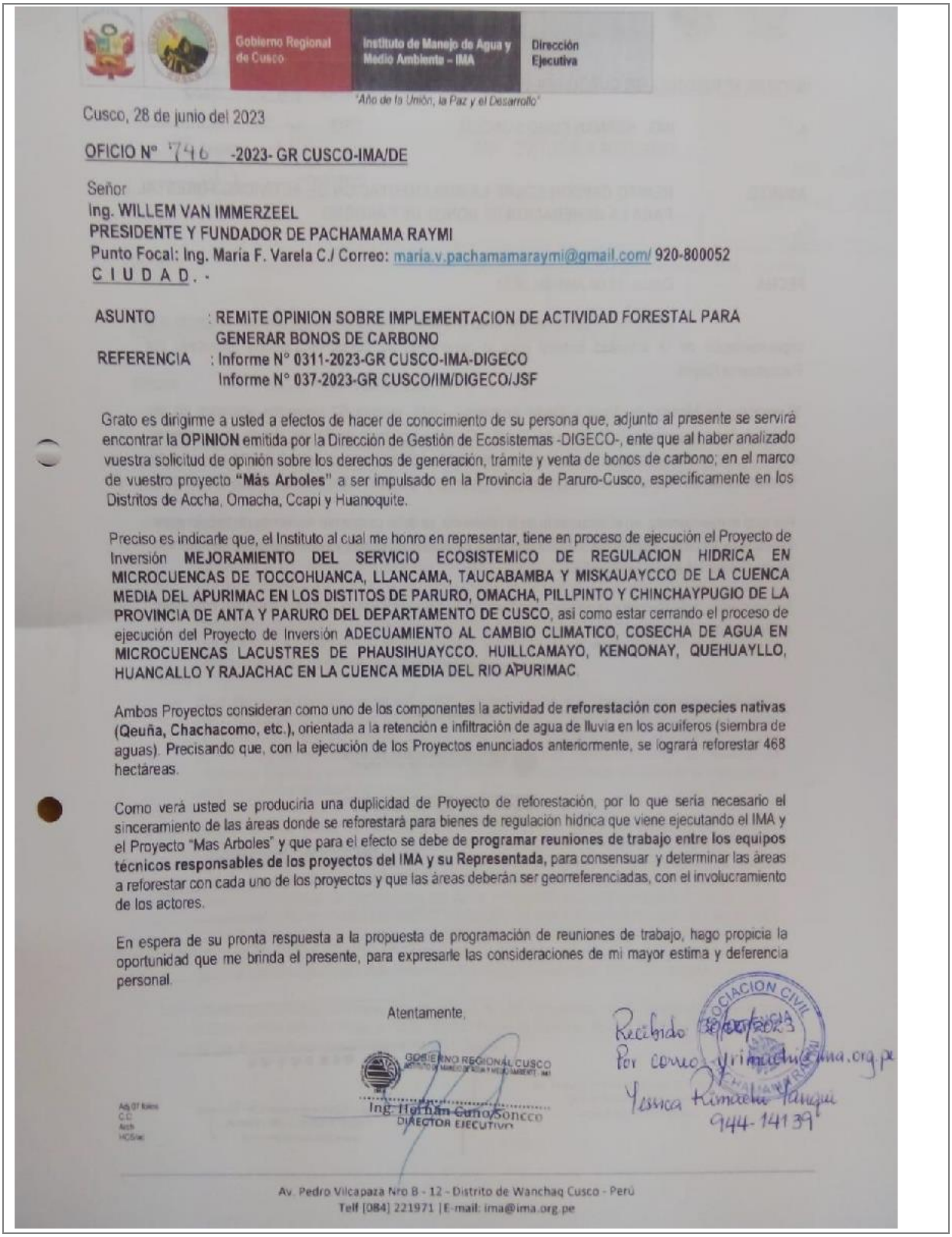
IV. Objetivo del Convenio

El objetivo del convenio es unir capacidades entre la Municipalidad y Pachamama Raymi para

-1-

¡ Progreso y Capacidad al Centro de Omacha !
Plaza de Armas de Omacha – Paruro – Cusco

Correspondence Institute of Water and Environmental Management (IMA) (only 1/5 pages, whole document is available to request)



Gobierno Regional de Cusco | Instituto de Manejo de Agua y Medio Ambiente – IMA | Dirección Ejecutiva

"Año de la Unión, la Paz y el Desarrollo"

Cusco, 28 de junio del 2023

OFICIO N° 746 -2023- GR CUSCO-IMA/DE

Señor
Ing. WILLEM VAN IMMERZEEL
PRESIDENTE Y FUNDADOR DE PACHAMAMA RAYMI
Punto Focal: Ing. María F. Varela C./ Correo: maria.v.pachamamaraymi@gmail.com/ 920-800052
C I U D A D. -

ASUNTO : REMITE OPINION SOBRE IMPLEMENTACION DE ACTIVIDAD FORESTAL PARA GENERAR BONOS DE CARBONO
REFERENCIA : Informe N° 0311-2023-GR CUSCO-IMA-DIGECO
Informe N° 037-2023-GR CUSCO/IM/DIGECO/JSF

Grato es dirigirme a usted a efectos de hacer de conocimiento de su persona que, adjunto al presente se servirá encontrar la **OPINION** emitida por la Dirección de Gestión de Ecosistemas -DIGECO-, ente que al haber analizado vuestra solicitud de opinión sobre los derechos de generación, trámite y venta de bonos de carbono; en el marco de vuestro proyecto **"Más Arboles"** a ser impulsado en la Provincia de Paruro-Cusco, específicamente en los Distritos de Accha, Omacha, Ccapi y Huanoquite.

Preciso es indicarle que, el Instituto al cual me honro en representar, tiene en proceso de ejecución el Proyecto de Inversión **MEJORAMIENTO DEL SERVICIO ECOSISTEMICO DE REGULACION HIDRICA EN MICROCUENCAS DE TOCCOHUANCA, LLANCAMA, TAUCABAMBA Y MISKAUAYCCO DE LA CUENCA MEDIA DEL APURIMAC EN LOS DISTITOS DE PARURO, OMACHA, PILLPINTO Y CHINCHAYPUGIO DE LA PROVINCIA DE ANTA Y PARURO DEL DEPARTAMENTO DE CUSCO**, así como estar cerrando el proceso de ejecución del Proyecto de Inversión **ADECUAMIENTO AL CAMBIO CLIMATICO, COSECHA DE AGUA EN MICROCUENCAS LACUSTRES DE PHAUSIHUAYCCO. HUILLCAMAYO, KENQONAY, QUEHUAYLLO, HUANCALLO Y RAJACHAC EN LA CUENCA MEDIA DEL RIO APURIMAC**.

Ambos Proyectos consideran como uno de los componentes la actividad de **reforestación con especies nativas (Queuña, Chachacomo, etc.)**, orientada a la retención e infiltración de agua de lluvia en los acuíferos (siembra de aguas). Precisando que, con la ejecución de los Proyectos enunciados anteriormente, se logrará reforestar 468 hectáreas.

Como verá usted se produciría una duplicidad de Proyecto de reforestación, por lo que sería necesario el sinceramiento de las áreas donde se reforestará para bienes de regulación hídrica que viene ejecutando el IMA y el Proyecto "Mas Arboles" y que para el efecto se debe de **programar reuniones de trabajo entre los equipos técnicos responsables de los proyectos del IMA y su Representada**, para consensuar y determinar las áreas a reforestar con cada uno de los proyectos y que las áreas deberán ser georreferenciadas, con el involucramiento de los actores.

En espera de su pronta respuesta a la propuesta de programación de reuniones de trabajo, hago propicia la oportunidad que me brinda el presente, para expresarle las consideraciones de mi mayor estima y deferencia personal.

Atentamente,

GOBIERNO REGIONAL CUSCO
Ing. Hernán Cano Soncco
DIRECTOR EJECUTIVO

Recibido 28/06/2023
Por correo - yrimachi@ima.org.pe
Yessica Rimache Yanqui
944-14139

Av. Pedro Vilcapaza Nro 8 - 12 - Distrito de Wanchaq Cusco - Perú
Telf [084] 221971 | E-mail: ima@ima.org.pe

Correspondence Ministry of the Environment (MINAM) (only 1/22 pages, whole document is available to request)

PERÚ | Ministerio del Ambiente | Viceministerio de Desarrollo Estratégico de los Recursos Naturales | Dirección General de Cambio Climático y Desertificación

"Decenio de la Igualdad de Oportunidades para mujeres y hombres"
"Año de la unidad, la paz y el desarrollo"

INFORME N° 00304-2023-MINAM/VMDERN/DGCCD/DMGEI

PARA : **MILAGROS SANDOVAL DIAZ**
Directora General de Cambio Climático y Desertificación

DE : **BERIOSKA QUISPE ESTRADA**
Directora de Mitigación de Gases de efecto Invernadero

ASUNTO : Información acerca de la legislación relacionada a la tierra, árboles y carbono.

REFERENCIA : PMR-2023-16 (Expediente N° 2023027502)

FECHA : Lima, 13 de septiembre de 2023

Me dirijo a usted, con relación al asunto arriba señalado, a fin de informar a su despacho lo siguiente:

1. ANTECEDENTES

1.1. Con el documento de la referencia, recibido el 23 de marzo de 2023, la Asociación Civil Pachamama Raymi, solicita orientación sobre la legislación relacionada con la propiedad de la tierra, de los árboles o de carbono, y que pueda afectar los derechos de carbono; toda vez que esta Asociación viene trabajando en una idea de proyecto *"Más Árboles"- Bonos de Carbono. Manejo Forestal y restauración de tierras degradadas en la provincia de Paruro-Cusco*.

2. ANÁLISIS

Respecto a las funciones del MINAM y de la Dirección General de Cambio Climático y Desertificación (DGCCD)

2.1. El Artículo 3 del Decreto Legislativo N° 1013, que aprueba la Ley de Creación, Organización y Funciones del MINAM, señala que el objeto del MINAM es la conservación del ambiente, de modo tal que se propicie y asegure el uso sostenible, responsable, racional y ético de los recursos naturales y del medio que los sustenta, que permita contribuir al desarrollo integral social, económico y cultural de la persona humana, en permanente armonía con su entorno, y así asegurar a las presentes y futuras generaciones el derecho a gozar de un ambiente equilibrado y adecuado para el desarrollo de la vida.

2.2. El 23 de marzo de 2023, mediante Resolución Ministerial N° 108-2023-MINAM, se aprobó el texto integrado del Reglamento de Organización y Funciones del Ministerio del Ambiente (ROF del MINAM), señala que el MINAM es el organismo del Poder Ejecutivo

Correspondence SERFOR (only 1/17 pages, whole document is available to request)

PERÚ | Ministerio de Desarrollo Agrario y Riego

"Decenio de la Igualdad de Oportunidades para Mujeres y Hombres"
"Año de la Unidad, la Paz y el Desarrollo"

Señor
WILLEM VAN IMMERZEEL
Presidente y Fundador
Pachamama Raymi
Calle Pavitos N° 567
Cusco -
maria.v.pachamamaraymi@gmail.com

Asunto : Solicitud de opinión favorable y cumplimiento de leyes, referente al proyecto: "Más Arboles"-Bonos de Carbono en marco del convenio interinstitucional entre el SERFOR y la Asociación Civil Pachamama Raymi

Referencia : a) Carta PMR-2023-012
b) Carta PMR-2023-013

Es grato dirigirme a usted, con relación a los documentos de la referencia a) y b) mediante los cuales solicita (i) opinión favorable respecto del Proyecto "Más Arboles"- Bonos de Carbono- Manejo forestal y restauración de tierras degradadas en la provincia de Paruro-Cusco, en los distritos de Accha, Omacha, Ccapi y Huanoquite de la provincia de Paruro Región Cusco. y (ii) orientación sobre la legislación que deben cumplir relacionado con la propiedad de la tierra, la propiedad de los árboles o la propiedad del carbono, que puedan afectar los derechos de carbono.

Al respecto, mediante el Informe Técnico N° D000004-2023-MIDAGRI-SERFOR-DGPCFFS-UFPFelaborado por la Unidad Funcional de Plantaciones Forestales de la Dirección General de Política y Competitividad Forestal y de Fauna Silvestre, se ha tenido a bien absolver lo solicitado por su representada.

En tal sentido, adjunto al presente se servirá encontrar copia del mencionado informe para los fines pertinentes, dándose por atendido lo solicitado por su Despacho.

Sin otro particular, quedo de su gentil atención.

Atentamente,

Documento firmado digitalmente

Williams Arellano Olano
Director General (e)
Dirección General de Gestión Sostenible del
Patrimonio Forestal y de Fauna Silvestre
Servicio Nacional Forestal y de Fauna Silvestre – SERFOR

Expediente N° 2023-0011678

Av. Javier Prado Oeste N° 2442
Urb. Orrantia, Magdalena del Mar – Lima 17
T. (511) 225-9005
www.gob.pe/serfor
www.gob.pe/midagri

Con Punche Perú

BICENTENARIO DEL PERÚ 2021 - 2024

Esta es una copia auténtica imprimible de un documento electrónico archivado en el Servicio Forestal y de Fauna Silvestre, aplicando lo dispuesto por el Art. 25 de D.S. 070-2013-PCM y la Tercera Disposición Complementaria Final del D.S. 026-2016-PCM. Su autenticidad e integridad pueden ser contrastadas a través de la siguiente dirección web: Url: https://sgd.serfor.gob.pe/validadorDocumental/ Clave: BMRWF5W

Correspondence National Institute of Civil Defence (INDECI) (only 1/2 pages, whole document is available to request)

PERÚ | Ministerio de Defensa | Instituto Nacional de Defensa Civil

"Decenio de la Igualdad de Oportunidades para Mujeres y Hombres"
"Año del Bicentenario, de la consolidación de nuestra Independencia, y de la conmemoración de las heroicas batallas de Junín y Ayacucho"

Señor
ING. GUILLERMO VAN IMMERZEEL
Presidente
ASOCIACION CIVIL PACHAMAMA RAYMI, APRENDER DE LOS MEJORES - PACHAMAMA RAYMI
CALLE PAVITOS 567, CUSCO-CUSCO-CUSCO
Presente.-

Asunto : EN RESPUESTA A SOLICITUD DE ALIANZA ESTRATEGICA DE COLABORACION ENTRE EL INDECI Y LA ASOCIACIÓN CIVIL PACHAMAMA RAYMI.

Referencia : Su Carta del 09 de febrero del 2024

Tengo el agrado de dirigirme a usted, para saludarlo cordialmente, y, en atención a su documento de la referencia, manifestarle una respuesta positiva a la intención de su representada de establecer acciones de cooperación mutua con el Instituto Nacional de Defensa Civil – INDECI, para posibilitar el desarrollo y la complementación de esfuerzos, capacidades, competencias y recursos para promover acciones relacionada a la Gestión del Riesgo de Desastres, particularmente las referidas a los incendios forestales en los Distritos donde desarrollan proyectos, así como en la Región de Cusco.

Con la finalidad de formalizar estas acciones de cooperación mutua, adjuntamos al presente el Modelo de Convenio Marco de Cooperación Interinstitucional del INDECI, en formato Word, a efectos de que procedan al registro de la información de su representada en los ítems que correspondan, remitiéndonos mediante una Carta el archivo final e indicando la intención de firmar este acuerdo de cooperación mutua, para iniciar el trámite ante nuestra Jefatura Nacional, adjuntando para el efecto los siguientes documentos:

1. Carta de Intención dirigida a mi despacho para firmar el Convenio Marco de Cooperación Interinstitucional.
2. Un documento que acredite la constitución formal de su representada.
3. Un documento que acredite la capacidad y/o competencia del Presidente de su representada para suscribir el convenio.
4. Un documento que acredite la representación y facultad del Presidente para suscribir el convenio.
5. Documento de Identidad Nacional o Carné de Extranjería del Presidente de su organización.

BICENTENARIO DEL PERÚ

Calle Ricardo Angulo Ramírez 694 - San Isidro
Central Telefónica (511) 225 9898
www.gob.pe/indeci

Esta es una copia auténtica imprimible de un documento electrónico archivado en el Instituto Nacional de Defensa Civil, aplicando lo dispuesto por el Art. 25 de D.S. 070-2013-PCM y la Tercera Disposición Complementaria Final del D.S. 026-2016-PCM. Su autenticidad e integridad pueden ser contrastadas a través de la siguiente dirección web:
Url: http://sisegd.indeci.gob.pe:8080/validadorDocumental/inicio/detalle.jsf
Clave: R2DQGRB

Correspondence Ministry of Culture (MINCUL) (only 1/2 pages, whole document is available to request)

Pachamama Raymi
Sembramos prosperidad

Cusco, 08 de marzo del 2024

MINISTERIO DE CULTURA
08 MAR 2024
MESA DE PARTES
30909

REF: PMR-2024-016
Para: Arq.Guido Bayro Orellana.
Director de la Dirección Desconcentrada de Cultura de Cusco

De: Ing. Guillermo Van Immerzeel.
Presidente de Pachamama Raymi.

Asunto: Solicitud de una alianza estratégica de colaboración entre la Dirección Desconcentrada de Cultura de Cusco y la A.C. Pachamama Raymi.

Me es sumamente grato dirigirme a Usted previo cordial saludo, como máxima autoridad de la Dirección Desconcentrada de Cultura de Cusco con la finalidad de solicitar un convenio de colaboración. En virtud de que nuestros objetivos institucionales comunes asociados a la protección del Patrimonio Cultural de la nación, podemos apoyarnos y complementarnos.

Somos la Asociación Civil Pachamama Raymi Aprender de los Mejores, es una organización sin fines de lucro, constituida el 24 de marzo de 2008 y reconocida por la Asociación Peruana de Cooperación Internacional, APCI. Nuestro propósito es romper el círculo vicioso de la degradación ambiental y la pobreza rural, logrando que comunidades y familias campesinas gestionen sus recursos naturales de manera sostenible.

El objetivo de la alianza sería establecer en el marco de cooperación mutua entre ambas organizaciones acciones que posibiliten el desarrollo y complementación de esfuerzos, capacidades, competencias y recursos disponibles para promover la protección del Patrimonio Cultural de la nación en los Distritos Provinciales donde se desarrollan nuestros proyectos y en general en la región de Cusco.

Actualmente nuestra organización está desarrollando el proyecto "Más Árboles"- Bonos de Carbono, Manejo forestal y restauración de tierras degradadas en la provincia de Paruro- Cusco, en los distritos de Accha, Omacha, Ccapi y Huanoquite de la Provincia de Paruro Región Cusco y el proyecto Sembrando Prosperidad en Ccapacmarca, Provincia de Chumbivilcas. En el anexo presentamos una descripción del proyecto "Más Árboles". Dado este contexto, es imperativo abordar los riesgos potenciales para los bienes culturales y patrimoniales.

El tema central de esta alianza estratégica de colaboración, es que ambas organizaciones posibiliten el desarrollo y complementación de esfuerzos, capacidades, competencias y recursos disponibles para coordinar, gestionar y capacitar y sensibilizar de manera conjunta la protección del Patrimonio Cultural de la nación en las comunidades campesinas.

Esperamos que esta propuesta de alianza estratégica sea de interés mutuo. Por favor indíquenos los pasos a seguir y la documentación a presentar.

Asociación Civil Pachamama Raymi - Calle Pavitos 567 Cusco, Perú - Telf. 084 – 236540 – 261796
www.pachamamaraymi.org - immerzeel@dos.sel.org

Correspondence SERFOR ATFFS (only 1/13 pages, whole document is available to request)

Pachamama Raymi
Sembramos prosperidad

Cusco, 01 de agosto del 2023

REF: PMR-2023-0127
Para: Ing. MSc. Jorge Gerardo Mendoza Delgado
Director de la Estación Experimental Agraria Andenes. INIA – Cusco

De: Ing. Guillermo Van Immerzeel
Presidente y Fundador de Pachamama Raymi.

Asunto: Solicitud ponentes para capacitar en manejo de viveros forestales y manejo de plagas y enfermedades.

Me es sumamente grato dirigirme a Usted previo cordial saludo, a los fines de solicitarle apoyo de ponentes profesionales del Programa Nacional Forestal para capacitación sobre el manejo de viveros forestales y manejo de plagas y enfermedades en plantaciones de pino (radiata).

Actualmente estamos desarrollando una importante producción de plantones en el marco del proyecto "Más Árboles"- Bonos de Carbono. Manejo forestal y restauración de tierras degradadas en la provincia de Paruro- Cusco, en los distritos de Accha, Omacha, Ccapi y Huanoquite de la Provincia de Paruro Región Cusco y en el Distrito de Capacmarca de la Provincia de Chumbivilcas.

La capacitación se realizará el día Lunes 14 de agosto de 2023 a las 9:00 am en nuestras oficinas Calle Pavitos Nro. 567.

Agradecemos su atención y esperamos su respuesta positiva a nuestra invitación. Puede confirmar al correo marin.v.pachamamaraymi@gmail.com / Teléfono 920-850059 Ing. Marin Varela.

Aprovecho la oportunidad para expresarle las muestras de mi consideración personal.

Atentamente,

GERENCIA

Ing. Willem Van Immerzeel.
Presidente y Fundador de Pachamama Raymi

Asociación Civil Pachamama Raymi - Calle Pavitos 567, Cusco, Perú, Telf. 084 – 235570 – 261206
www.pachamamaraymi.org immerzeel@pachamama.org

Correspondence National Meteorology and Hydrology service (SENAMHI)

Pachamama Raymi
Sembramos prosperidad

Enviado por correo el 06/06/2023
a huamane@senamhi.gob.pe Ing Zenón Huamán G.
con copia a mbotillo@senamhi.gob.pe
984-248480 / 983-314179

Cusco, 28 de mayo del 2023

REF: PMR-2023 0124
Para: Zenón Huamán Gutiérrez
Director Zonal 17
Servicio Nacional de Meteorología e Hidrología Cusco.-

Expediente 2023-0024564
SENAMHI

De: Ing. Guillermo Van Immerzeel
Presidente y Fundador de Pachamama Raymi.

Asunto: Solicitud de información

Me es sumamente grato dirigirme a Usted previo cordial saludo, como máxima autoridad de *Servicio Nacional de Meteorología e Hidrología Cusco* con la finalidad de solicitar información sobre el peligro de déficits hídricos previsto para la región Cusco en el 2023 y la tendencia 2024 por el efecto del evento Niño Costero y el Niño global, de ser posible específicamente para la Provincia de Paruro y Chumbivilcas.

Esta información es de gran interés para nuestra organización y las comunidades campesinas con las cuales estamos desarrollando el proyecto "Más Árboles" Bonos de Carbono, Manejo forestal y restauración de tierras degradadas en la provincia de Paruro- Cusco, en los distritos de Accha, Omacha, Ccapi y Huanoquite de la Provincia de Paruro Región Cusco Requerimos adoptar las medidas preventivas de acuerdo a la magnitud de estos eventos climatológicos.

- El objetivo del proyecto es Lograr la prosperidad de las familias campesinas y la recuperación de recursos naturales, mediante el establecimiento de plantaciones forestales 1600 Hectáreas, que generan bienes y servicios ecosistémicos a favor de las familias y comunidades campesinas.
- El proyecto está en la etapa de Pre-Factibilidad , se utilizara el estándar de Bonos de carbono Plan Vivo Versión 5.0
- El proyecto impactara a 31 comunidades y 1600 familias.

Agradecemos su atención y esperamos su respuesta positiva a nuestra invitación. Estamos a su disposición en caso de requerir información adicional.

Aprovecho la oportunidad para expresarle las muestras de mi consideración personal.

Atentamente,

Ing. Willem Van Immerzeel.
Presidente y Fundador de Pachamama Raymi

Asociacion Civil Pachamama Raymi Calle Pavitos 567, Cusco. Perú. - Telf. 084 236540 261206
www.pachamamaraymi.org inmerzeel@dexco.org

Correspondence National service for Agrarian Health (SENASA) (only 1/3 pages, whole document is available to request)

Correspondence Metallurgical Institute (only 1/3 pages, whole document is available to request)

Legal Compliance Statement

Compliance Statement

Project "Más Árboles"- Carbon Credits Forest management and restoration of degraded lands in the province of Paruro and Chumbivilcas - Cusco

Cusco, March 14, 2024

As a responsible entity committed to ethical project practices and legal compliance, A.C. Sembramos Prosperidad hereby declares its unwavering commitment to operating in full accordance with all relevant national and international policies, laws, and regulations. This commitment extends to every facet of our project's planning, execution, and ongoing management.

Our Commitment:

1. Adherence to Legal Frameworks: We recognize the importance of adhering to the legal frameworks established by governing bodies at both the national and international levels. Our project will operate within the parameters set forth by applicable laws, statutes, and regulations to ensure lawful conduct in all activities.

2. Respect for Ethical Standards: Upholding ethical standards is fundamental to our operations. We pledge to conduct our business with integrity, honesty, and transparency, respecting the rights and dignity of all stakeholders involved.

3. Comprehensive Compliance: Our commitment to compliance is comprehensive and encompasses a wide range of areas, including but not limited to:

   a. Environmental regulations
   b. Carbon Credit regulations
   c. Rights of Indigenous Peoples
   d. Labor laws and employment practices
   e. Health and safety standards
   f. Data protection and privacy laws
   g. Anti-corruption and bribery laws

4. Continuous Monitoring and Improvement: Compliance is not a one-time endeavour but an ongoing commitment. We will establish robust monitoring mechanisms to ensure that our operations consistently meet regulatory requirements. Additionally, we are dedicated to continually improving our compliance practices through regular assessments, training programs, and the implementation of best practices.

In conclusion, A.C. Sembramos Prosperidad reaffirms its dedication to operating with the highest standards of legal and ethical conduct. By adhering to national and international policies, laws, and regulations, we aim to not only mitigate risk but also contribute positively to the communities and environments in which we operate.

Signed,

Willem Hendrik Matthijs van Immerzeel
President of the A.C. Sembramos Prosperidad

Annex 6 - Pine plantation logic and analysis

Pine plantations will serve as a tool to break the cycle of degradation in the Andean landscape, acting as catalysts for both the resilience of local farming communities and the restoration of degraded natural ecosystems.

The pine trees will be planted only in degraded areas that no longer fulfil their natural role in the ecosystem, lacking provision of ecosystem services. While improving these ecosystem services (see below), the planting of pine provides the project participants with financial alternatives for the harmful practices of burning and cattle grazing. Pine stands lead to the generation of new sources of income, such as carbon credits, edible mushroom sales, firewood, and timber. These new revenues will incentivise communities to protect the trees and surrounding ecosystems from intensive cattle grazing and the associated (uncontrolled) burning but on top of that make these unsustainable practices redundant.

Planting pine will:

- Reduce and sectorize degrading practices such as burning and overgrazing; this will facilitate natural and assisted regeneration within and outside the plantations
- Create nursing sites (providing shade, reducing wind exposure) and management conditions for the survival and development of a native understorey within the plantations.
- Provide communities with financial contentment and therefore headspace to appreciate and invest in the importance of native vegetation as it naturally regenerates, creating a supportive communal mindset that encourages both natural and assisted regeneration.
- Generate new sources of income, such as carbon credits, mushrooms, firewood, and timber, which will incentivise communities to participate, support, and protect the project actively.
- Improve the livelihoods of local communities by empowering them through sustainable practices that allow for a balanced coexistence between agricultural and livestock activities and ecosystem conservation.
- Pursue landscape restoration by integrating pine planting with native species, aiming for comprehensive restoration to halt degradation and foster long-term biodiversity recovery.

Challenges with Native Species

These benefits cannot be achieved by planting endemic tree species, such as *Podocarpus glomeratus*, native *Cedrela* species, and *Polylepis* species, as they struggle to survive in the harsh conditions of degraded areas. These areas are characterized by poor soils, intense winds, low infiltration rates that lead to drought, extreme temperature fluctuations between day and night, and very high insolation at high altitudes, as Sembramos Prosperidad has observed in practice. Without creating a suitable nurse environment, growing these trees has been unsuccessful.

Another challenge is the difficulty of growing these native species in nurseries, as they require more than a year of intensive management. Even once planted, they grow extremely slowly under the extreme conditions of degraded soil and sparse plant cover.

Equally important though, these species do not provide communities with enough incentive to shift away from their current unsustainable land-use practices that continue to contribute to land degradation.

Community preference

Reforestation efforts are designed in close collaboration with local communities, respecting their priorities and building on their desire to restore land in ways that also support their livelihoods. Community members have expressed strong interest in planting pine trees, particularly Pinus radiata and P. patula, because they see tangible economic advantages. These species are valued not only for their resilience and survival in local conditions but also for their commercial potential—making them a practical and attractive choice. Communities actively support their cultivation, knowing that the pines can yield income through timber and the edible mushrooms that grow symbiotically with pine, which are in demand in local markets and restaurants.

Effect of pine on the landscape

Pinus radiata, native to the central coast of California, and *Pinus patula*, originating from the mountainous regions of Mexico, have been introduced into various latitudes and climates, including the extreme conditions of the Andes. These trees, known for their hardiness and adaptability, have managed to establish themselves at high altitudes in an environment characterized by low humidity, as well as strong, dry winds and extreme insolation.

The adaptation of these pine species is the result of complex biological processes that facilitate survival strategies in adverse environments. Notably, Andean pines exhibit prolonged needle retention, optimizing photosynthesis under conditions of water and nutrient scarcity. This adaptation leads to a significant reduction in needle accumulation on the ground, contrasting with the abundant leaf drop seen in temperate regions. In these climates, defined seasons promote more pronounced leaf renewal cycles. Conversely, the limited seasonal variation and resource scarcity in the Andes compel pines to renew their leaves gradually, further minimizing ground needle deposition. This phenomenon can be understood in light of the principles of plant adaptation described by Salisbury and Ross (1992), who emphasize the role of physiological and morphological adjustments that plants make to survive in challenging environments.

The adaptation of pines in the Andean zone, therefore, leads to little soil acidification and, consequently, chemical degradation, as also found by Oliva Cruz et al., (2016). Instead, their presence can transform the soil structure by promoting aeration in compacted soils and improving the quality of rainwater infiltration. This improvement in soil structure is crucial for maintaining the health of the Andean ecosystem, as it facilitates access to water resources for other plant species, such as undergrowth of native species, and contributes to the sustainability of the environment.

Plantation Design for Assisted Natural Regeneration

The role of pine plantations in fostering favourable conditions for the survival and development of a native understorey will be created by implementing wide spacing between the pine trees. This spacing allows more light to reach the soil, which limits nitrogen uptake and reduces litter accumulation. As noted earlier, needle accumulation is already minimal in high mountain regions. Designing plantations with lower tree density minimizes the risk of pine trees outcompeting native vegetation, as indicated by Van Wesenbeeck et al. (2003) and enables the simultaneous growth of other natural or cultural species in the same area (Carey 1982; López-Marcos 2020). Consequently, this understorey growth helps prevent excessive accumulation of pine organic matter and promotes decomposition.

In line with the findings of Cavelier and Tobler (1998), who showed that 21-year-old abandoned plantations of Pinus patula can support native species, particularly in the understorey, it was

observed during the Más Árboles' SEIA field visit that once the pines grow, shrubs begin to establish naturally. However, to enhance this process, diverse native species will be planted and sown in between the pine during restocking (replacing dead pines) in the third year and after thinning, creating a mixed plantation, to promote assisted natural regeneration. It is estimated that about 20% of the pines will be replaced by native species, resulting in 99 native plants per hectare amidst the pines. The native species that are considered for both the native understorey and the assisted natural regeneration in the conservation areas are listed below. These species are suitable and readily available for cultivation and planting, with good potential for growth in the pine understory. The wide spacing of the pine trees allows sufficient light for species that prefer higher light levels, such as *Berberis* spp., *Baccharis* spp. and *Muehlenbeckia volcanica*. Meanwhile, shade-tolerant species like Escallonia spp., Gynoxys and *Podocarpus glomeratus* are also well-adapted to the conditions beneath the pine canopy, ensuring their successful establishment.

Innovative Approaches in the Más Árboles Project

In this section the Más Árboles approach to pine plantations will be described in more detail. The Más Árboles project takes a different approach from many other pine plantations, because it does not create vast monocultures of pine in natural pajonal or matorral systems nor in riparian zones. By planting with exceptionally low stocking (493 trees/ha instead of the common 1111 trees/ha), creating gaps or open spaces, thinning and pruning, minimizing disturbances and incorporating native species within the pine plantation and surrounding water bodies, the pine functions as a nurse environment that promotes the restoration and development of native vegetation, as described by Guariguata et al., (1995) and Harrington (1999). Additionally, pine will be temporarily planted on a maximum of 20%—currently only 12%—of communal lands, and only in degraded areas where pine has been shown to enhance deteriorated ecosystem services (Hofstede et al., 2002; Balthazar et al., 2015). Although it is important to recognize that pine will not fully replace the services of a natural ecosystem, their planting in degraded areas can provide certain benefits and ecosystem services, including:

1. **Carbon Fixation:** Pines act as carbon sinks, storing CO_2 in their biomass and contributing to climate change mitigation.
2. **Erosion Control:** Pine roots help stabilize the soil, which can reduce erosion and improve soil quality in degraded areas over the long term (Dyck 2004; Bonnesoeur et al., 2019). Pine trees can reduce water erosion, increasing soil infiltration rates, and improving topsoil organic matter (SOM).
3. **Soil Structure and Hydrology Improvement:** Pine forests can improve soil permeability (SEIA, 2024) and thereby facilitate water infiltration into the soil, contributing to aquifer recharge and reducing peak discharges (Bonnesoeur et al., 2019). Although water consumption in pine is relatively high, water infiltration in degraded soils is so low that pine plantations will improve water availability locally, instead of losing most water to streams and rivers through surface run off. The presence of pines can contribute to healthier soil structure, favouring nutrient retention and biological activity (Bonnesoeur et al, 2019).
4. **Biodiversity Enhancement:** Pines create a nurse environment and thereby aid the regeneration of other species and enhance biodiversity in degraded areas (Dyck 2004; SEIA, 2024).
5. **Provision of timber and non-timber products:** Pines can be utilized for carbon credit revenues, timber production and edible mushroom cultivation.

Mitigating the challenges of pine plantations

This approach optimizes the positive effects of pine plantations and minimizes the negative effects typically associated with pine plantations (soil acidification, soil carbon reduction), although the reduction in water supply (due to higher evapotranspiration rates of pine compared with herbaceous species, implying changes in the percentage of water available in the soil and drainage of aquatic systems) might remain of concern. While with the low stocking and small planting area this impact is expected to be very small, native species will be planted in riparian zones and waterbodies to promote groundwater recharge, a slower release of water discharge and better water quality.

Water extraction from local sources will be minimal and limited to tree nurseries, which are operated in collaboration with communities and draw from small streams, springs, and a river. While farmers in these areas irrigate 3 to 6 hectares for crop cultivation, nurseries use only 0.2 to 0.4 hectares per district and employ higher irrigation efficiency (60% compared to farmers' 10%). In Huanoquite, for instance, the nursery uses a section of a small river not utilized by farmers due to cold temperatures.

By enhancing degraded land, reducing grazing pressures, and restoring riparian zones, the project is expected to positively impact the local hydrological balance. The small-scale water use for nurseries is therefore not expected to pose any concern and aligns with the project's goal of fostering sustainable water resource management and ecosystem recovery.

Some studies highlighting potential negative effects of pine plantations are being discussed in section 1.1 Project Interventions in the Evaluation Form. The potential risk of the pine trees becoming invasive and the associated risk mitigation strategies to be implemented by the project coordinator are being discussed in detail in section 3.1 Baseline Scenario in the Evaluation Form.

Annex 7– Acronyms and abbreviations, References

ANA	National Water Authority
ATFFS	Technical Administration of Forestry and Wildlife Cusco
CEDEP Ayllu	Centre for the Development of Ayllu Peoples
DFID	Department for International Development
EPPFC	Strategy for the Promotion of Commercial Forest Plantations
FPIC	Free, Prior and Informed Consent
FSC	Forest Stewardship Council
IMA	Institute of Water and Environmental Management
INDECI	National Institute of Civil Defence
INIA	National Institute of Agrarian Innovation
MIDIS	Ministry of Development and Social Inclusion
MINAM	Ministry of the Environment
MINCUL	Ministry of Culture
PMR	Pachamama Raymi
ProREST	National Strategy for Restoration of Ecosystems and Forest Lands
RENAMI	National Registry of Mitigation Measures
RLFFS	Forestry and Wildlife Law
SENAMHI	National Meteorology and Hydrology Service
SENASA	National Agrarian Health Service
SERFOR	National Forest and Wildlife Service
SLF	Sustainable Livelihood Framework
SP	Sembramos Prosperidad
UGEL	Institutional Management Office
VCS	Verified Carbon Standard

Alonso, W. A., Lavado-Casimiro, W., Espinoza-Villar, R., & Chávarri-Velarde, E. (2022). Spatial Distribution of Droughts in the Titicaca Lake Basin. Revista Brasileira de Meteorologia, 37, 289-304.

Balthazar, V., Veerle Vanacker, Armando Molina, Eric F. Lambin, Impacts of forest cover change on ecosystem services in high Andean mountains, Ecological Indicators, Volume 48, 2015, Pages 63-75, https://doi.org/10.1016/j.ecolind.2014.07.043.

Beck HE, Bruijnzeel LAS, van Dijk AIJM, McVicar TR, Scatena FN, Schellekens J. 2013. The impact of forest regeneration on streamflow in 12 mesoscale humid tropical catchments. Hydrology and Earth System Sciences 17(7): 2613–2635. DOI:10.5194/hess-17-2613-2013

Bonnesoeur, V., Locatelli, B., Guariguata, M. R., Ochoa-Tocachi, B. F., Vanacker, V., Mao, Z., Stokes, A., & Mathez-Stiefel, S.-L. (2019). Impacts of forests and forestation on hydrological services in the Andes: A systematic review. Forest Ecology and Management, 433, 569–584. https://doi.org/10.1016/j.foreco.2018.11.033

Brack Egg, A. y Mendiola Vargas, C. (2004). Ecología del Perú. Lima, Perú: Asociación Editorial Bruño.

Brack Egg, Antonio. (1986). Las ecorregiones del Perú. Boletin de Lima, N° 44.

Bradley, A. V., & Millington, A. C. (2006). Spatial and temporal scale issues in determining biomass burning regimes in Bolivia and Peru. International Journal of Remote Sensing, 27(11), 2221-2253.

Buytaert W, Célleri R, De Bièvre B, Cisneros F, Wyseure G, Deckers J, Hofstede R. 2006a. Human impact on the hydrology of the Andean páramos. Earth-Science Reviews 79(1–2): 53–72. DOI:10.1016/j. earscirev.2006.06.002

Buytaert W, Iñiguez V, De Bièvre B. 2007. The effects of afforestation and cultivation on water yield in the Andean páramo. Forest Ecology and Management 251(1–2): 22–30. DOI:10.1016/j.foreco.2007.06.035

Carey, M. L., Hunter, I. R., & Andrew, I. (1982). Pinus radiata forest floors: factors affecting organic matter and nutrient dynamics. New Zealand Journal of Forestry Science, 12(1), 36-48.

Catorci, A., Velasquez, J. L., Cesaretti, S., Malatesta, L., Tardella, F. M., & Zeballos, H. (2014). How environment and grazing influence floristic composition of dry Puna in the southern Peruvian Andes. Phytocoenologia, 44(1-2), 103-119.

Cavelier, J., & Tobler, A. (1998). The effect of abandoned plantations of Pinus patula and Cupressus lusitanica on soilsand regeneration of a tropical montane rain forest in Colombia. Biodiversity & Conservation, 7, 335-347.

Célleri, R., Buytaert, W., De Bièvre, B. E. R. T., Tobón, C., Crespo, P., Molina, J., & Feyen, J. A. N. (2010). Understanding the hydrology of tropical Andean ecosystems through an Andean Network of Basins. IAHSAISH Publication, 336, 209-212.

CEPLAN. (2021). *Información para el planeamiento a nivel departamental, provincial y distrital*. Departamento Del Cusco . https://www.ceplan.gob.pe/informacion-sobre-zonas-y-departamentos-del-peru/

Cerda Granados, D. A. (2011). Geographical Variation of Cold Hardiness in Pinus patula Provenances and Genetic Inheritance of Cold Hardiness in Pinus patula x Pinus tecunumanii Hybrids. MSc Thesis.

Chacon, G., Gagnon, D., & Paré, D. (2009). Comparison of soil properties of native forests, Pinus patula plantations and adjacent pastures in the Andean highlands of southern Ecuador: Land use history or recent vegetation effects? Soil Use and Management, 25, 427–433. https://doi.org/10.1111/j.1475-2743.2009.00233.x

Clark, K. E., Hilton, R. G., West, A. J., Robles Caceres, A., Gröcke, D. R., Marthews, T. R., .. & Malhi, Y. (2017). Erosion of organic carbon from the Andes and its effects on ecosystem carbon dioxide balance. Journal of Geophysical Research: Biogeosciences, 122(3), 449-469.

Cossios Meza, Daniel. (2018). Informe sobre el estado y tendencias de la diversidad de ecosistemas del Perú.

Crespo PJ, Feyen J, Buytaert W, Bücker A, Breuer L, Frede H-G, Ramírez M. 2011. Identifying controls of the rainfall-runoff response of small catchments in the tropical Andes (Ecuador). Journal of Hydrology 407 (1–4): 164–174. DOI:10.1016/j.jhydrol.2011.07.021

Cruz, M. C., Collazos Silva, R., Esparraga Espinoza, T. A., (2016). Effect of Pinus Patula plantations on the physicochemical characteristics of soils in high Andean areas of the Amazonas region. Journal of Andean Ecology, 12(3), 45-58. DOI: 10.25127/indes.201401.003.

de Ronde, C., & du Plessis, M. (2002). Determining the relative resistance of selected Pinus species to fire damage. In Forest Fire Research & Wildland Fire Safety, Viegas. Millpress.

Duchicela, S. A., Llambí, L. D., Bonnesoeur, V., & Román-Dañobeytia, F. (2024). Pastoralism in the high tropical Andes: A review of the effect of grazing intensity on plant diversity and ecosystem services. Applied Vegetation Science, 27(3), e12791.

Duque, A., Peña, M., Cuesta, F., Phillips, O., & Kennedy, P. (2021). Mature andean forests as globally carbon sinks and future carbon refues. *Nature Communications* , *12*, 21–38.Dvorak, W.S.; Hodge, G.R.; Kietzka, J.E.; Malan, F.; Osorio, L.F.; Stanger, T.K. Pinus Patula. In Conservation and Testing of Tropical and Subtropical Forest Tree Species by the Camcore Cooperative; College of Natural Resources-North Carolina State University: Raleigh, NC, USA, 2000; pp. 148–173.

Espinoza, S. E., Magni, C. R., Martínez, V. A., & Ivković, M. (2013). The effect of water availability on plastic responses and biomass allocation in early growth traits of Pinus radiata D. Don. Forest Systems, 22(1), 3–14. https://doi.org/10.5424/fs/2013221-02084

Espinoza, J. C., Segura, H., Ronchail, J., Drapeau, G., and Gutierrez-Cori, O. (2016). Evolution of wet- and dry-day frequency in the western Amazon basin: relationship with the atmospheric circulation and impacts on the vegetation. Water Resour. Res. 52, 8546–8560. Doi: 10.1002/2016WR019305.

Fajardo, A., & Piper, F. I. (2014). An experimental approach to explain the southern Andes elevational treeline. American Journal of Botany, 101(5), 788-795.

Favier V, Coudrain A, Cadier E, Francou B, Ayabaca E, Maisincho L, Praderio E, Villacís M, Wagnon P. 2008. Evidence of groundwater flow on Antizana ice-covered volcano, Ecuador. Hydrological Sciences Journal 53(1): 278–291. DOI:10.1623/hysj.53.1.278

Fernandes, K., Baethgen,W., Bernardes, S., deFries, R., DeWitt, D. G., Goddard, L., et al. (2011). North Tropical Atlantic influence on western Amazon fire season variability. Geophys. Res. Lett. 38:L12701. Doi: 10.1029/2011GL047392

Fjeldsa, J.; Kessler, M. Obter uma Cópia Encontrar uma Cópia na Biblioteca Amazon$29.95 Conserving the Biological Diversity of Polylepis Woodlands of the Highland of Peru and Bolivia: A Contribution to Sustainable Natural Resource Management in the Andes; Nordeco: Copenhagen, Denmark, 1996.

Gestión. (2022). *Producción de papa en Perú caería hasta 40% por el mal clima*. https://www.eleconomista.com.mx/empresas/Produccion-de-papa-en-Peru-caeria-hasta-40-por-el-mal-clima-20221207-0118.html

Giddens, K. M., Parfitt, R. L., & Percival, H. J. (1997). Comparison of some soil properties under Pinus radiata and improved pasture. New Zealand Journal of Agricultural Research, 40(3), 409–416. https://doi.org/10.1080/00288233.1997.9513262

Gonzales Inca, C. A. (2009). Assessing the land cover and land use change and its impact on watershed services in a Tropical Andean Watershed of Peru.

Greer, D. H., Menzies, M. I., & Warrington, I. J. (2001). Cold Hardiness of Radiata Pine (Pinus radiata D. Don). In F. J. Bigras & S. J. Colombo (Eds.), Conifer Cold Hardiness (Vol. 1, pp. 555–573). Springer Netherlands. https://doi.org/10.1007/978-94-015-9650-3_20

Guariguata, M. R., Rheingans, R., & Montagnini, F. (1995). Early woody invasion under tree plantations in Costa Rica: implications for forest restoration. Restoration Ecology, 3(4), 252-260.

Harrington, C. A. (1999). Forests planted for ecosystem restoration or conservation. New Forests, 17, 175-190.

Hofstede, Robert G. M., Jeroen P. Groenendijk, Ruben Coppus, Jan C. Fehse, and Jan Sevink "Impact of Pine Plantations on Soils and Vegetation in the Ecuadorian High Andes," Mountain Research and Development 22(2), 159-167, (1 May 2002). https://doi.org/10.1659/0276-4741(2002)022[0159:IOPPOS]2.0.CO;2

Holdridge, L. R. (1987). Ecología basada en zonas de vida (No. 83). Agroamérica.

INEI. (2017). *Censos nacionales 2017: XII de población, VII de vivienda y III de comunidades indígenas*. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1539/libro.pdf

INRENA. (1994). *Mapa Ecológico del Perú – Guía Explicativa* .

Jiménez-Muñoz, J. C., Mattar, C., Barichivich, J., Santamaría-Artigas, A., Takahashi, K., Malhi, Y., et al. (2016). Record-breaking warming and extreme drought in the Amazon rainforest during the course of El Niño 2015-2016. Sci. Rep. 6:33130. Doi: 10.1038/srep33130.

Lemenih, M., Gidyelew, T., & Teketay, D. (2004). Effects of canopy cover and understory environment of tree plantations on richness, density and size of colonizing woody species in southern Ethiopia. Forest Ecology and Management, 194(1–3), 1–10. https://doi.org/10.1016/j.foreco.2004.01.050

Ley Forestal y de Fauna Silvestre Ley N° 29763 y Sus Reglamentos -, 1 (2011). López-Bassa, B., & Dias Cubas, L. (2022). *De quien es el carbono en el peru*. MINAM. (2024). *Geoservidor* . Herramienta de Mapas Del País.

López-Marcos, D., Turrión, M. B., Bravo, F., & Martínez-Ruiz, C. (2020). Can mixed pine forests conserve understory richness by improving the establishment of understory species typical of native oak forests?. Annals of Forest Science, 77, 1-13.

Ministerio del Ambiente (MINAM). (2015). Mapa nacional de cobertura vegetal: memoria descriptiva. 108 pp.

Morris, A. (1997). Afforestation Projects in Highland Ecuador: Patterns of Success and Failure. Mountain Research and Development, 17(1), 31. https://doi.org/10.2307/3673911

MRG (n.d.). Highland Quechua in Peru: historical context. *Minority Rights Group*. Retrieved May 2024 from https://minorityrights.org/communities/highland-quechua/

Narula, S. A., Magray, M. A., & Desore, A. (2017). A sustainable livelihood framework to implement CSR project in coal mining sector. *Journal of Sustainable Mining*. https://doi.org/10.1016/j.jsm.2017.10.001

Oliva Cruz, M., Collazos Silva, R., & Espárraga Espinoza, T. A. (2016). Effect of Pinus patula plantations on the physicochemical characteristics of soils in high Andean areas of the Amazonas region. Índes, 2014(1), 003. https://doi.org/10.25127/indes.201401.003

Ortega-Rodriguez, D. R., Hevia, A., Sánchez-Salguero, R., Bermudez Dobbertin, S., Rosero-Alvarado, J., Chavesta, M., & Tomazello-Filho, M. (2022). Novel Yield Model of Pinus patula Schltdl. & Cham. Growth near the Ecological Limit in Northwestern Peruvian Andes. Forests, 13(12), 2109.

Orwa C, A Mutua, Kindt R , Jamnadass R, S Anthony. 2009 Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp)

Parrotta, J. A. (n.d.-a). Influence of overstory composition on understory colonization by native species in plantations on a degraded tropical site.

Parrotta, J. A. (n.d.-b). The role of plantation forests in rehabilitating degraded tropical ecosystems.

Perry, L. B., Seimon, A., & Kelly, G. M. (2014). Precipitation delivery in the tropical high Andes of southern Peru: new findings and paleoclimatic implications. International journal of Climatology, 34(1), 197-215.

Poveda, G., Espinoza, J. C., Zuluaga, M. D., Solman, S. A., Garreaud, R., & Van Oevelen, P. J. (2020). High impact weather events in the Andes. Frontiers in Earth Science, 8, 162.

Quiroz, R.A. et al. 1995, Facing the challenge of the Andean Zone: the role of modelling in developing sustainable management of natural resources in: Eco-Regional Approaches for sustainable Land use and Food Production. Systems approaches for sustainable agricultural development.

Quispe Mayta, R. W. (2017). *Almacenamiento de carbono en pastizales naturales con y sin práctica de restauración del paraje Lomo Largo – Jauja*. Universidad Nacional del Centro del Perú.

Raboin, Matthew L. and Joshua L. Posner "Pine or Pasture? Estimated Costs and Benefits of Land Use Change in the Peruvian Andes," Mountain Research and Development 32(2), 158-168, (1 May 2012). https://doi.org/10.1659/MRD-JOURNAL-D-10-00099.1

Randriambanona, H., Randriamalala, J. R., & Carriere, S. M. (2019). Native forest regeneration and vegetation dynamics in non-native Pinus patula tree plantations in Madagascar. Forest Ecology and Management. https://doi.org/10.1016/j.foreco.2018.11.033

Resteau, C. C., & Cabrera, A. C. (2018). Porcón: Medio siglo de forestación en los Andes de Cajamarca-Perú. Lluvia Editores.

Rojas, S., Felipe-Obando, O., & Lavado-Casimiro, W. (2017). Atlas de erosión de suelos por regiones hidrológicas del Perú. Nota Técnica Nº 002 SENAMHI-DHI-2017. [Note Technical No. 002 SENAMHI-DHI-2017]. Ministerio del Ambiente - Servicio Nacional de Meteorología e Hidrología del Perú. https://hdl.handle.net/20.500.12542/261

Rolando, C. A., & Little, K. M. (2008). Measuring water stress in Pinus patula Schiede ex Schlect. & Cham. Seedlings. South African Journal of Plant and Soil, 25(1), 55–61. https://doi.org/10.1080/02571862.2008.10639895

Román-Cuesta, R. M., Salinas, N., Asbjornsen, H., Oliveras, I., Huaman, V., Gutiérrez, Y., .. & Malhi, Y. (2011). Implications of fires on carbon budgets in Andean cloud montane forest: The importance of peat soils and tree resprouting. Forest Ecology and Management, 261(11), 1987-1997.

Salisbury, F. B., and Ross, C. W. 1992. Plant physiology. Brooks/Cole Pub Co.

Sarmiento, F. O., & Frolich, L. M. (2002). Andean cloud forest tree lines. Mountain research and development, 22(3), 278-287.

Schauwecker, S., Rohrer, M., Huggel, C., Endries, J., Montoya, N., Neukom, R., … & Suarez, W. (2017). The freezing level in the tropical Andes, Peru: An indicator for present and future glacier extents. Journal of Geophysical Research: Atmospheres, 122(10), 5172-5189.

SERFOR. (2023). *Estimaciones de biomasa, carbono, factores de emisión e incertidumbres a partir de los resultados del inventario nacional forestal y de fauna silvestre* (Vol. 1).

Tovar Narváez, A. (2018). Definiciones conceptuales de los ecosistemas del Perú.

Van Wesenbeeck, B. K., van Mourik, T., Duivenvoorden, J. F., & Cleef, A. M. (2003). Strong effects of a plantation with Pinus patula on Andean subpáramo vegetation: A case study from Colombia. Biological Conservation, 114(2), 207–218. https://doi.org/10.1016/S0006-3207(03)00025-9

Vega-Jácome, F. (2016). Análisis del riesgo de sequía en el sur del Perú.

Zubieta, R., Prudencio, F., Ccanchi, Y., Saavedra, M., Sulca, J., Reupo, J., & Alarco, G. (2021). Potential conditions for fire occurrence in vegetation in the Peruvian Andes. International Journal of Wildland Fire, 30(11), 836–849. https://doi.org/10.1071/WF21029