

Finance Challenges and Opportunities for Landscape Restoration in the High Andes

Insights from Abancay-Apurímac Model Forest (Perú)

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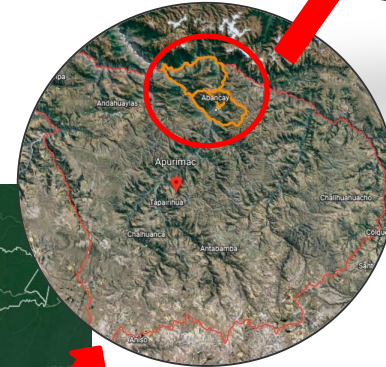
Abancay-Apurímac Model Forest

Apurímac region, Abancay province, Perú, South America

1. Andean ecosystems: forests, grasslands. From 1000 to 5450 m.a.s.l.
2. Composed of 03 districts within Abancay province: Huanipaca, Tamburco and Abancay (80,030 hectáreas in total)
3. Only protected area: Ampay National Sanctuary (*Podocarpus glomeratus* relict)
4. Social and cultural pattern: organization in peasant communities.
5. Agriculture: main land use and economic activity.
6. Challenges: climate change sensitivity of livelihoods (droughts, changes in rainfall pattern and forest fires)
7. There's interest in scaling up the Model Forest approach to Curahuasi and Lambrama districts in the next years.



Abancay Model Forest:
80,030 hectareas



Apurímac Region:
2.1 millions hectareas



Perú: 1.285 millions hectareas



@N. Villaume



@N. Villaume



@N. Ruiz-Guevara



@Andean Forest Program



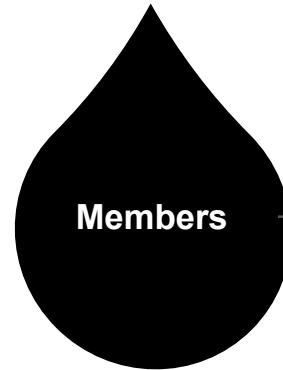
@MathezStiefel



Regional Environmental Commission

1. Governance platform led by civil society in coordination with subnational government (GORE Apurímac)
2. Formalized by law and operating since 2014
3. Acknowledged as Model Forest since 2021
4. Composed by 3 technical groups:
 - a. Mining and environment
 - b. Family agriculture and peasant communities
 - c. Biodiversity (Model Forest operates within this group)

Technical group of biodiversity

Coordinator: Ampay National Sanctuary 



- IDMA – NGO
- IIDA – NGO
- Tarpurisunchis – education
- EMUSAP – water company
- Py. ABD/MINAM
- CEDES – NGO 
- Subnational government (GRRNNyGMA) 
- SUNASS - government

 **Model Forest management group members**

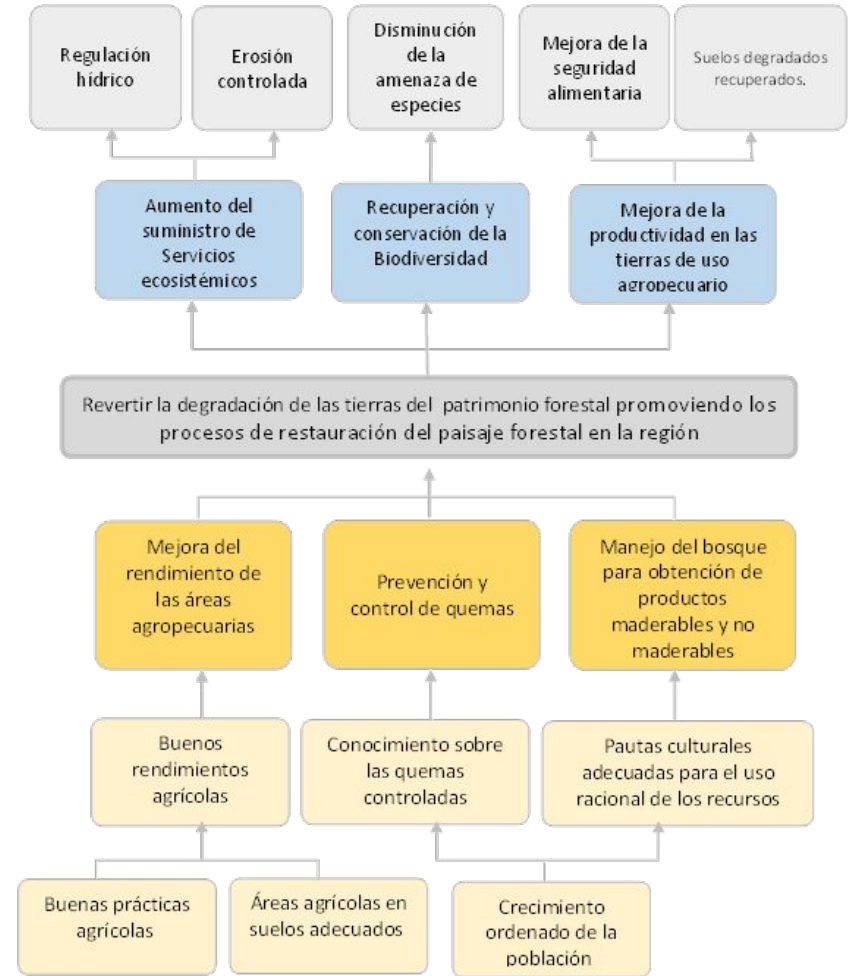
Our vision and strategy

Regional Environmental Commission Main Goal (2015):

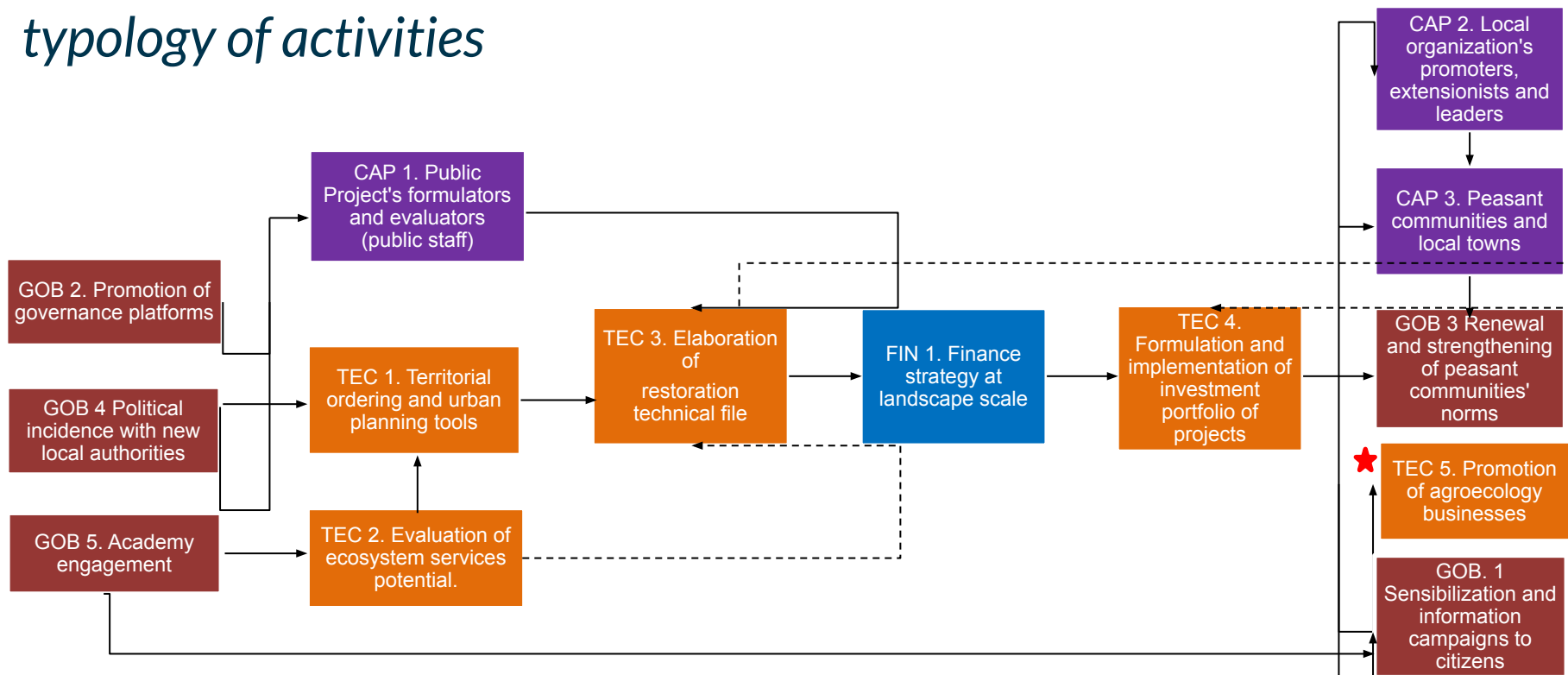
To establish dialogue and agreement among the public and private sectors and organized civil society, for the institutionality and strengthening of environmental management: natural resources, environmental quality, governance and environmental opportunities; aligned with the National Environmental Policy and the Regional Environmental Policy.

Apurímac's Regional Restoration Strategy (2018):

A) To promote forest landscape restoration processes in Apurímac Region, in order to reverse the degradation of forest heritage lands. B) Promote scientific research, knowledge and monitoring. C) To intensify agriculture. D) To provide technical assistance and rural extensionism. E) To enhance sustainable value chains. F) To develop financial mechanisms.



Abancay Model Forest's Restoration Action Plan: *typology of activities*



Code:

GOB. Good interinstitutional governance

CAP. Capacity building and knowledge management programs

TEC. Technical Actions

FIN. Finance management

Potential value chains:

Forest: honey, mushrooms (pine), medical plants. ★ Water.

Agriculture: andean fruits, avocado, flowers, corn, vegetables, livestock, guinea pig. Small scale – family agriculture.

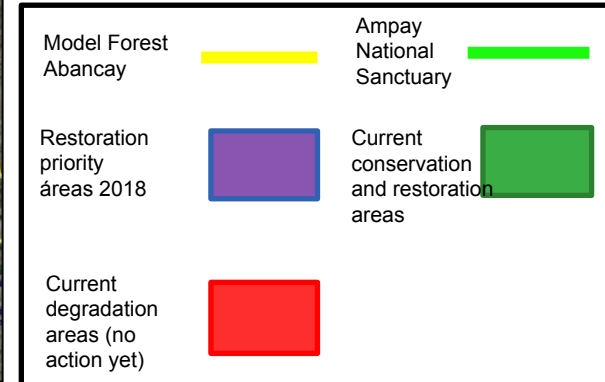
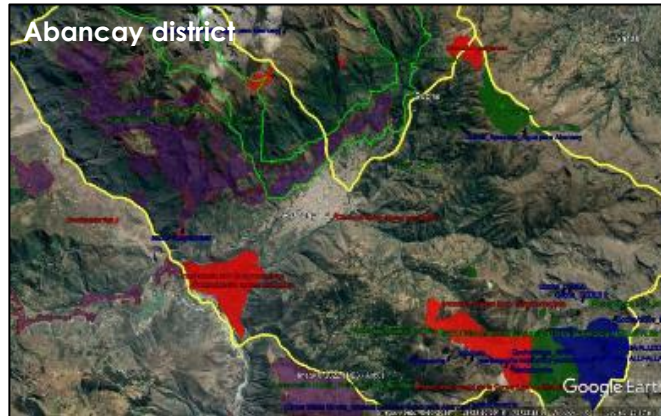
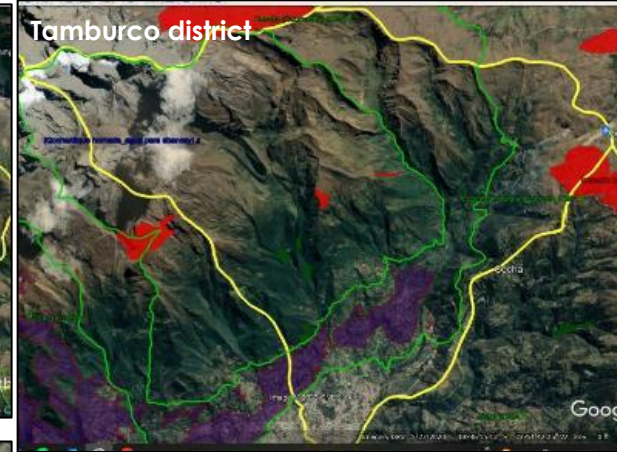
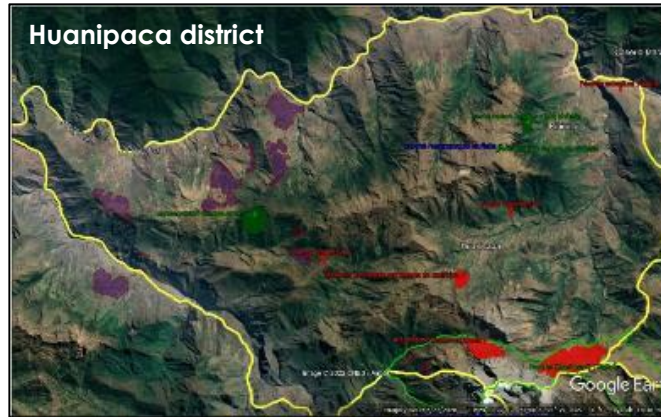
Current situation in Abancay – Apurímac Model Forest

Degradation drivers:

- Land use change
- Burn in agriculture land
- Burn in grasslands
- Forest fires
- Soil erosion (cover loss)
- Pollution due to agrochemicals, solid and liquid residues
- Illegal and legal roads
- Urban expansion

The action plan identifies enabling conditions to unlock public and private investment, including capacity building, governance enhancement and detailed technical planning. Nevertheless, Abancay Model Forest has norms and tools that provide guidelines that can be considered as a starting point.

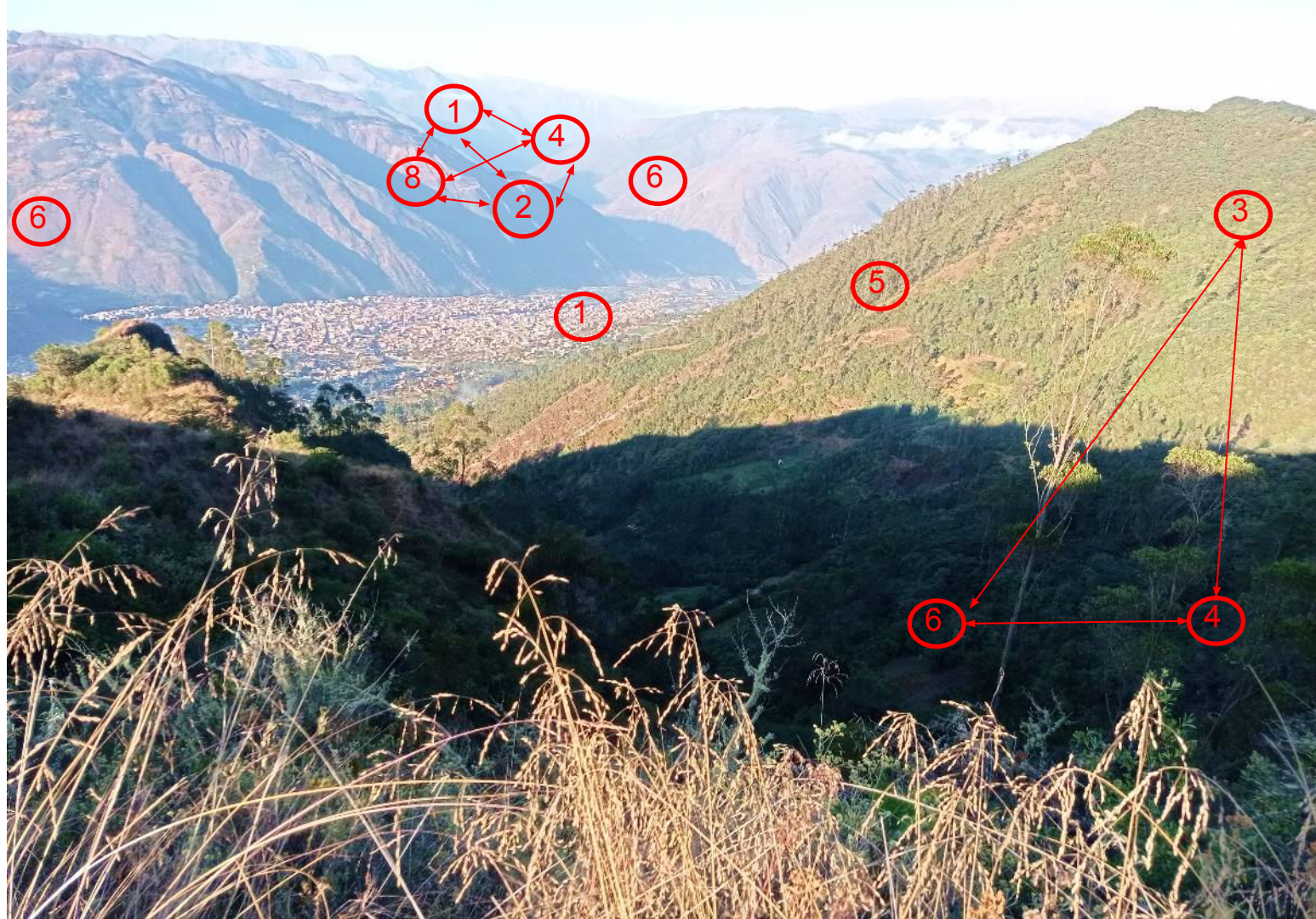
A Restoration Opportunities Assessment identified 12,836 hectares to be restored (2018). Through an online participatory process (2022), 1280 additional hectares were identified due to recent degradation. Existing maps provide detailed geographic information, which is important to identify technical solutions.



Current actions in the field

1. Rural-urban mechanism of retribution by hydric ecosystem services (public-private scheme) – **slide 11**
2. Agroecology practices
3. Protected areas: biodiversity and hydric monitoring
4. Ecological restoration
5. Forest plantations
6. Forest fire combat
7. Agrobiodiversity
8. High altitude water management (q'ochas)

↔ synergies





Current actions in the field

7. Agrobiodiversity

8. High altitude water management (q'ochas)

9. Community based forest management

10. Carbon based payment for ecosystem services (private scheme)

←→ synergies

Landscape investment portfolio

Projects already funded

- Forest plantation (exotic species) – *public investment*
- Biodiversity monitoring and ecological restoration in nuclear zone of protected area – *regular government activity*
- Ecological restoration in Mariño micro-basin (Abancay district) and water management – MERESEH* ([Mecanism of Retribution by Hidrological Ecosystem Services](#))

*Further explanation in slide N°11

Projects incubated and ready to scale

- Pilots of biodiversity monitoring and productive restoration in buffer zone of protected area – *funded by international cooperation in the past*
- Pilots of ecological restoration and water management in other micro-basins and biodiversity hotspots – *funded by international cooperation in the past*
- Community based forest management and restoration ([currently funded by private scheme of retributions by carbon sequestration in one peasant community](#))
- Agroecology promotion – *currently funded by international cooperation in one micro-basin*
- Sustainable value chains of honey and mushrooms – *Market based (not tracked)*

Current financial support

Type of source	Organizations involved	Type of mechanism	Actions
MERSEH	Emusap Abancay (water provisor company for urban area), SUNASS (water regulator)	MERSEH (further information in next slide).	Ecological restoration and water harvest
Public investment	Regional government	Public projects (2 to 5 years)	Forest plantation
	Local government (Huanipaca district)	Public projects (2 to 5 years)	Agroecology production (avocado, livestock and guinea pig)
	National Service of Protected Areas	Regular government's activity	Ecological restoration and biodiversity monitoring
Private	REGENERA, CEDES Apurímac, Kiuñalla peasant community	Carbon based incentives	Community forest conservation, water monitoring
International cooperation - grants	Spanish and EU cooperation, mainly. Local NGO: Cedes Apurímac, IDMA, IIDA, Caritas, Centro Bartolomé de las Casas, CESAL, others.	International cooperation projects	Agroecology production (vegetables, livestock, honey, others) Agroforestry

1 TODOS SOMOS AGUA

EL MERESE Y LOS ACUERDOS POR EL AGUA ENTRE LAS COMUNIDADES Y LA EPS EMUSAP ABANCAY

FASE 1

En 2019 se firmó el primer contrato con vigencia hasta el 2020: "Plan de Intervención del MERESE-H" impulsado por la EPS Emusap Abancay, campesinos Atumpata y Micaela Bastidas.

FASE 2

En 2021 se renueva el contrato con vigencia hasta el 2024: "Plan de Intervención del MERESE-H" impulsado por la EPS Emusap Abancay, en el marco del proyecto "Agua para Abancay y las Comunidades".



What is a MERESE?

It's a type of mechanism of payment for ecosystem services. All MERESE are volunteer in Perú and may include pollination, carbon sequestration, soil conservation, among others.

In the case of hydrological ones (MERESEH), they are promoted by public policy. The mechanisms are private managed (usually by water companies) and civil society funded (through monthly contributions in water invoices). Implies contracts with peasant communities for conservation and restoration, water harvest, among others. In Abancay city, Mariño micro-basin provides water for agriculture and human consumption, so a MERESEH has been implemented for its management. It's managed by Emusap Abancay and regulated by SUNASS.

Further resources:

<https://www.euroclima.org/mapaperu> (virtual trip)
https://www.youtube.com/watch?v=SQDFZAJM0dU&ab_channel=EPSEMUSAPABANCAYSA

1

ELABORACIÓN DEL PLAN DE INTERVENCIÓN

El plan se elabora participativamente, en el cual hombres y mujeres de las comunidades aportan sus conocimientos y priorizan las actividades a implementar.



2

SENSIBILIZACIÓN

Presentación del "Plan de intervención del MERESE-H" para conocimiento y aprobación de la Asamblea Comunal.



3

GOBERNANZA

El Proyecto Agua para Abancay y las Comunidades promueve la creación de mesas de diálogo sobre las actividades de uso y conservación del agua y los ecosistemas.

Participan expertos, pobladores, la sociedad local, gobernantes locales y regionales.



4

CAPACITACIÓN EN PRÁCTICAS DE CONSERVACIÓN Y RESTAURACIÓN DE ECOSISTEMAS

Con participación de las comunidades se priorizan diversas las prácticas como:

- Cercado de áreas con malla y tubos.
- Taller de prevención de incendios forestales.
- Producción y uso sostenible de hongos comestibles de los bosques de pinos.
- Pasantías y análisis de experiencias relevantes.
- Seminarios sobre el MERESE-H.
- Curso en monitoreo ecohidrológico.



5

ÁREAS DE PROTECCIÓN COMUNITARIA

Las comunidades como Llañucancha deciden destinar 227 ha. de su territorio para zonas de protección y restauración de los servicios para la siembra del agua (recarga hídrica) y protegen la biodiversidad.

El Proyecto Agua para Abancay y las Comunidades asesora y apoya con el cercado, construcción de qochas mejoradas, restauración de los ecosistemas y monitoreo ecohidrológico.



6

CERCADO DE ÁREAS COMUNALES

Mediante acuerdos comunales en los sectores de Acchihuachana (Micaela Bastidas), Jayllahuasi (Atumpata) y Hornada (Llañucancha), el proyecto implementa un conjunto de prácticas que fortalecen el MERESE-H, con lo cual se restaurarán ecosistemas clave para la siembra del agua (recarga hídrica) y recuperación de la biodiversidad.



8

MONITOREO DE QOCHAS

El Proyecto Agua para Abancay y las Comunidades financia la modernización del sistema de monitoreo ecohidrológico, para fortalecer a la EPS Emusap Abancay.

Actualmente se conoce la cantidad de agua almacenada en las qochas, lagunas y represas.

El monitoreo permite una mejor toma de decisiones en la siembra y cosecha del agua.



9

CONSTRUCCIÓN DE DIQUES PARA LA FORMACIÓN DE QOCHAS Y ALMACENAMIENTO DE AGUA

Estas obras se hacen con alta movilización de mano de obra comunitaria. Con esta práctica se incrementa el volumen de agua disponible para el uso poblacional y riego.

- Rumihuasi (uso poblacional y riego)
- Ccayllahuasi (riego)
- Ccayllahuasi Alta (riego)
- Tomerccochoa (riego)
- Yauricccochoa (riego)
- Moroccochoa (uso poblacional y riego)
- Hormada (riego)
- Misitoqochoa (riego)
- Huahuacchoa (riego)



7

REVEGETACIÓN DE PAJONALES

Con esta práctica se planta el "ichu" para recuperar los suelos degradados por el sobrepastoreo que afecta el suelo; se mejora la capacidad de infiltración del agua y se reduce la erosión del suelo.



10

REFORESTACIÓN

De diciembre 2019 a enero 2021, se plantaron árboles nativos de Queñua, para recuperar la capacidad de infiltración y almacenamiento del agua, proteger el suelo y restaurar los ecosistemas.



Financing Needs (prioritized from restoration action plan):

Most urgent needs

- **Forest fire management**
- Conservation, restoration and water management, overall in hydric providers areas, burned and critical ecosystems.
- Agroecology linked to climate change adaptation

Potential value chains:

Forest: honey, mushrooms (pine), medical plants. Water.

Agriculture: andean fruits, avocado, flowers, corn, vegetables, livestock, guinea pig. Small scale – family agriculture.

Type of funding required

- MERESEH: Need to horizontal scale to other micro-basins providing water for agriculture and human consumption
- Public investment (projects)
- Sustainable business (loans and grants for small scale agriculture, suitable for these types of stakeholders)
- Grants to address enabling conditions (governance, technical studies, research, etc - slide 6)

Challenge: Unlocking public investment, due to lack of capacity, political priorities and complex procedures

Forest fires (2022)



De-risking investment

Project risks

- Climate change intensification: rising temperatures, droughts and forest fires
- Governance and political instability
- Government lack of engagement
- Civil society lack of engagement



Nature based solutions



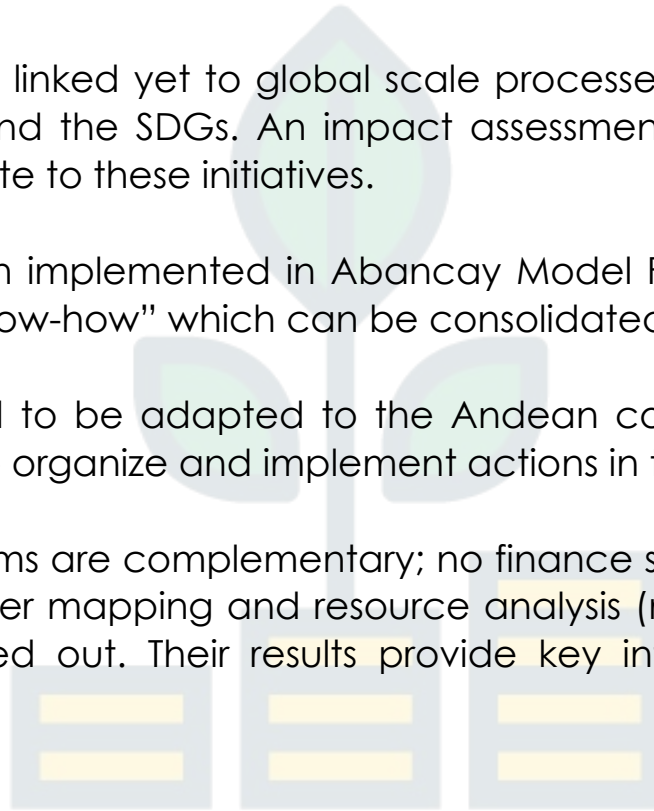
**Territorial scale,
multi-stakeholder
governance to
mitigate risks**

Landscape Investment: Lessons Learned


- 1) Ecosystem services compensation and incentives are viable. However, it is still necessary to bring investors closer and to overcome gaps of enabling conditions, in order to scale.
- 2) The economic benefits of sustainable landscape management are not yet adequately visible or fully analyzed (due to the lack of studies, sensibilization and dissemination of information), compared to, e.g., traditional agriculture chains.
- 3) Government has important roles as both funder and funding promoter. Nevertheless, there is currently no clarity on how to promote private investment. Public investment procedures in sustainable landscape management isn't yet fully developed, operate slowly, on annual cycles and depends on unstable factors such as changes in political cycles or climate uncertainty.
- 4) The costs of forest conservation, management and restoration are not fully identified, which undermines the opportunities for proper planning. Plus, current finance does not consider the maintenance and monitoring phases of long-term initiatives (such as restoration), so it is not clear the sustainability in terms of economic fluxes.

For further information, access to this article [Financing for Andean Forests: experiences and challenges](#)

Landscape Investment: Lessons Learned

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- 5) Abancay Model Forest isn't linked yet to global scale processes such as the 20X20 Initiative , the Decade of Restoration and the SDGs. An impact assessment is necessary to explore and exploit its potential to contribute to these initiatives.
- 6) Successful pilots have been implemented in Abancay Model Forest. Local stakeholders and their allies possess existing “know-how” which can be consolidated to scale.
- 7) Finance mechanisms need to be adapted to the Andean context, in order to match with community-based schemes to organize and implement actions in the field.
- 8) Different finance mechanisms are complementary; no finance source can fully accomplish all landscape goals. A stakeholder mapping and resource analysis (natural, capacities, social and economic) have been carried out. Their results provide key information about current and potential local synergies.

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- [Model Forest description](#)
- [Virtual trip](#)

A person wearing a hat and a jacket is walking on a dirt path through a dense, mossy forest. The path is narrow and surrounded by tall trees and lush vegetation. The lighting is dappled, suggesting a canopy overhead.

**For More
Information**