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Systematization of the project experience: "Ecosystem Restoration through Ecosystem-Based Adaptation (EbA) Measures, with a Focus on Gender Equality and Social Inclusion (GESI) in the Samanga Peasant Community"

ANA
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CONSEJO DE RECURSOS HÍDRICOS DE CUENCA
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I. INTRODUCTION

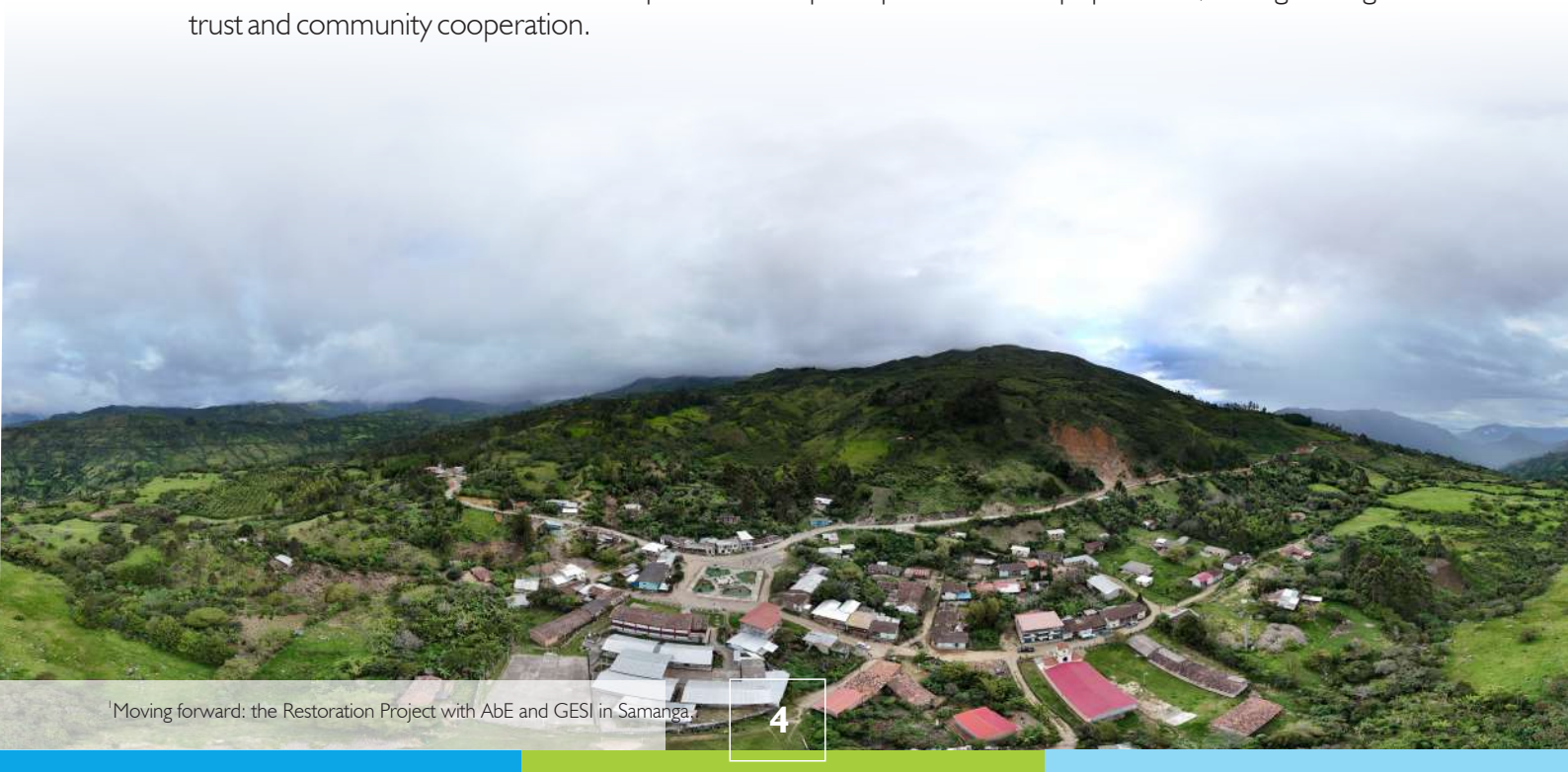
This document presents the implementation experience of the project "Ecosystem Restoration with Ecosystem-Based Adaptation (EbA) Measures, with a Focus on Gender Equality and Social Inclusion (GESI) in the Samanga Peasant Community"[1], in Ayabaca Province, Piura region, Perú..

Between November 2023 and July 2025, the Regional Water Fund (FORASAN Piura) implemented this project with technical and financial support from Fundación Futuro Latinoamericano (FFLA) and the Climate and Development Knowledge Network (CDKN), within the framework of the Small Grants Program. The project also included the participation of the Regional Government of Piura, the National Water Authority of Peru (ANA), the Ayabaca Provincial Municipality, and the Natural Infrastructure for Water Security Project (NIWS).

This systematization provides an integrated analysis of the technical, social, and cultural dimensions of the experience, highlighting the active and central role of women, men, and youth from community organizations and the local educational institution. The document aims to inspire and guide future interventions in water-critical areas such as the headwaters of the Chira-Piura basin. The project design was based on the identification of needs expressed by local stakeholders, fostering ownership, strengthening the sustainability of interventions, and enabling the achievement of expected results.

This document aims to contribute to informed decision-making and to the expansion of ecosystem-based adaptation interventions, with a gender and social inclusion approach, in high-altitude, Andean areas vulnerable to climate change.

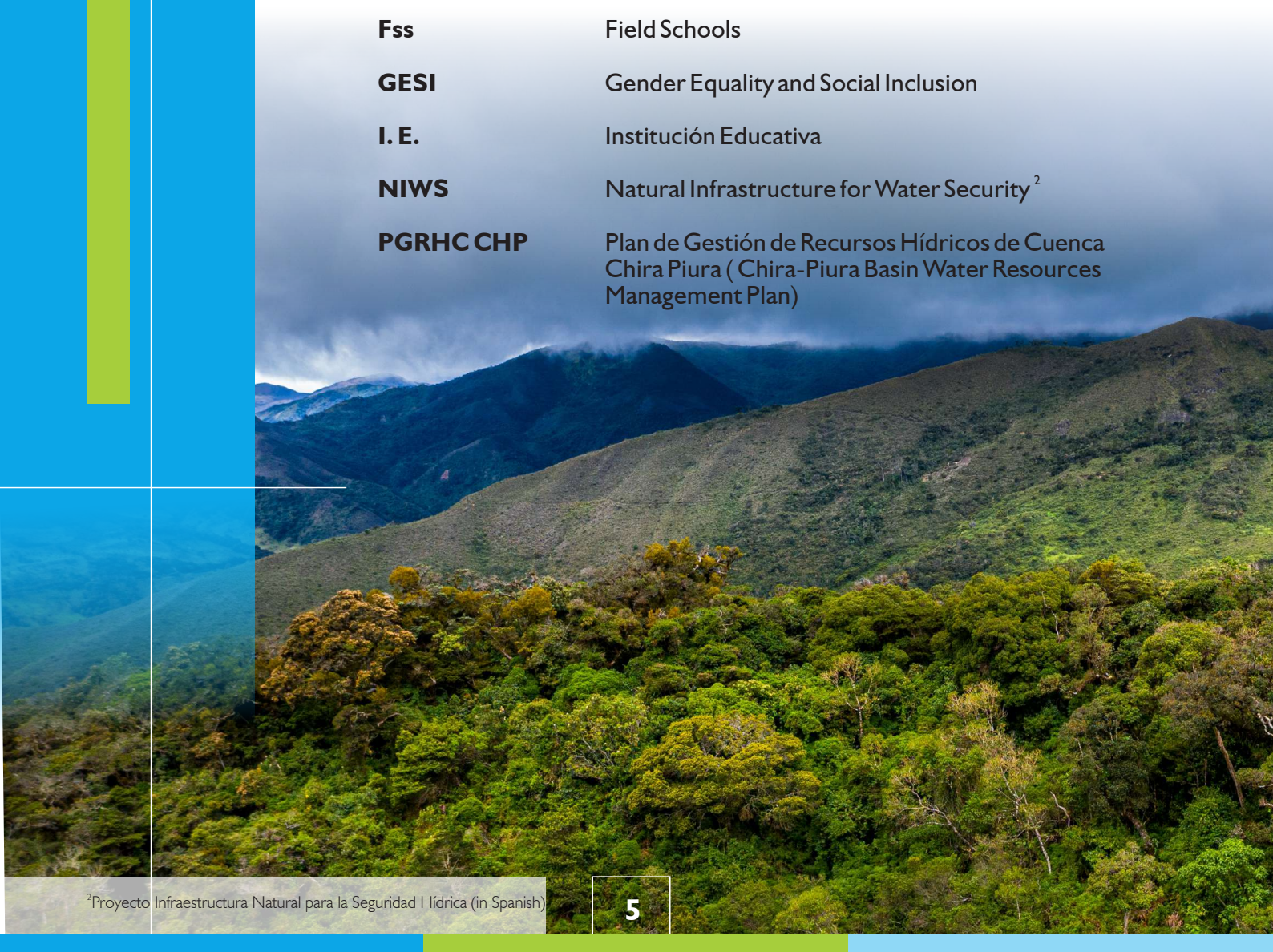
The Samanga experience demonstrates that climate solutions for water management are more effective and sustainable when developed with the participation of local populations, strengthening trust and community cooperation.



[1] Moving forward: the Restoration Project with AbE and GESI in Samanga.

ABBREVIATIONS AND ACRONYMS

ANA	National Water Authority (ANA) of Peru
APACBONPAS	Asociación de Productores Agropecuarios y Conservacionistas de los Bosques de Neblina y Páramo de Samanga (Association of Agricultural Producers and Conservationists of the Samanga Mist Forests and Páramo)
ASDEME	Asociación de Mujeres Emprendedoras de Buenos Aires (Association of Women Entrepreneurs of Buenos Aires)
CDKN	Climate and Development Knowledge Network
CRHCCHP	Chira Piura Basin Water Resources Council (Consejo de Recursos Hídricos de Cuenca Chira Piura)
EbA	Ecosystem-Based Adaptation
E. I.	Educational Institution
FFLA	Latin American Future Foundation (Fundación Futuro Latinoamericano)
Fss	Field Schools
GESI	Gender Equality and Social Inclusion
I. E.	Institución Educativa
NIWS	Natural Infrastructure for Water Security [2]
PGRHC CHP	Plan de Gestión de Recursos Hídricos de Cuenca Chira Piura (Chira-Piura Basin Water Resources Management Plan)



[2] Proyecto Infraestructura Natural para la Seguridad Hídrica (in Spanish)

II.CONTEXT AND BACKGROUND

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II. Context and background

The process underlying the project "Ecosystem Restoration through Ecosystem-Based Adaptation (EbA) Measures, with a Focus on Gender Equality and Social Inclusion (GESI) in the Samanga Peasant Community" began on June 14, 2011, with the creation of the Chira-Piura Basin Water Resources Council - CRHC CHP. This council was established by Supreme Decree No. 006-2011-AG of the Peruvian Government. It is a permanent body of the National Water Authority (ANA) of Peru. The purpose of the CRHC CHP is to promote the active and ongoing participation of regional governments, local governments, civil society, water user organizations, rural communities, and indigenous communities, as well as other members of the National Water Resources Management System involved in the basin. The council's primary objective is to participate in planning, coordination, and consultation for the sustainable use of water resources, within the framework of Law No. 29338, Peru's Water Resources Law, and its implementing regulations.

In 2014, the CRHC CHP, with technical assistance from various institutions, formulated the Chira Piura Basin Water Resources Management Plan (PGRHC CHP), which identifies, among its priorities, the promotion of public, private, and cooperative investments aimed at the conservation and protection of ecosystems and the services they provide.

The 2014 PGRHC CHP identifies the middle and upper parts of the basin as priority areas, where the Samanga Peasant Community (Ayabaca) is located. This community is home to ecosystems of great hydrological importance, such as the páramo and the cloud forest, which are protected and managed within the *Bosque de Neblina y Páramos de Samanga* Private Conservation Area (PCA[3])". This management reflects the local commitment to conservation and environmental stewardship.

In this context, the ANA, through the CRHC CHP and the Regional Government of Piura, together with other institutions, created the Regional Water Fund—FORASAN Piura[4], establishing it as the Council's technical and financial arm. This strategic framework guided FORASAN Piura and the ANA to launch, in 2017, its first interventions in Samanga, through conservation and restoration actions, complemented by training activities in risk management, revegetation with native species, installation of infiltration ditches, fruit tree management, agroforestry, and hydrological monitoring, with the aim of preserving the quality and quantity of water resources at the basin's headwaters and contributing to the goals and objectives of the PG RHC CHP

The importance of Samanga was reaffirmed in 2023 with the update of the Plan[5], which identified priority intervention areas in this community. That same year, FORASAN Piura applied to the FFLA and CDKN Small Grants Program, as a member of the Andean Water Funds Platform[6], to capitalize on its experience in Ecosystem-based Adaptation (EbA) measures and strengthen its capacities in the area of gender equality and social inclusion (GESI).

The proposal for the EbA project in Samanga, using a GESI approach, was developed based on field experience with local communities and the concept notes promoted by FORASAN Piura and the Chira-Piura Basin Water Resources Council (CRHC CHP).

The project's formulation received technical and financial support from the NIWS project and was selected as the winning proposal after demonstrating that its design is based on the active and coordinated participation of various stakeholders: national actors, such as the National Water Authority (ANA); regional actors, such as the Regional Government of Piura; and local actors, such as community organizations and the municipality, among others. Likewise, the design incorporated community assessments and climate risk analyses, which enabled the development of a theory of change model represented as a results chain, developed with a territorial, participatory, and inclusive approach.

[3] PCAs are privately owned properties that contain representative samples of the natural ecosystem characteristic of their surroundings and are conserved by their owners on their own initiative and on a voluntary basis. These areas are recognized by the Peruvian government, specifically by the Ministry of the Environment.
[4] Created by Regional Ordinance No. 324-2015/GRP as a technical and financial tool of the Chira Piura Basin Water Resources Council.
[5] The update to the PGRHC CHP was approved by Resolution No. 0392-2023-ANA of the National Water Authority of Peru.
[6] Composed for water funds from Colombia, Peru, and Ecuador, facilitated by the FFLA. Since 2023, FORASAN Piura has been part of the Platform.

Inter-institutional coordination contributed to the project's success. This is evident in the coordination efforts with the Provincial Municipality of Ayabaca, FFLA-CDKN, CONDESAN (part of the NIWS project), and other entities, which enabled the pooling of resources, expertise, and legitimacy for the interventions. Evidence of this includes co-financing agreements, participation by local authorities in community workdays and workshops, and validation of the project's operational activities and actions during the implementation phase. This synergy enhanced the sustainability and impact of the actions in Samanga.

The project established as its general objective to increase the adaptive capacity and resilience of men and women in Samanga in the face of the effects of climate change, through the implementation of EbA measures with gender equity and social inclusion. The project includes the following specific objectives: i) capacity building and leadership development for climate change adaptation; ii) protection and conservation of water-critical ecosystems in the Bosque de Neblina y Páramos de Samanga Private Conservation Area; and iii) strengthening of sustainable production systems with women from the Association of Agricultural P roducers for the Conservation of the Mist Forests and Paramos of Samanga.

From November 2023 to July 2025, the project carried out its activities within the framework of the Small Grants Program, promoted by FFLA and CDKN, with FORASAN Piura serving as the coordinating and technical implementing entity, and Profonanpe[7] acting as the specialized financial administrator.

The project was implemented with the participation of key local partners, including: i) the Samanga Peasant Community; ii) Espíndola Women's Peasant Patrol[8]; iii) Educational Institution No. 15136 *Remberto de Jesús Pardo Ochoa* in Espíndola; and iv) Association of Agricultural Producers and Conservationists of the Mist Forests and Páramos of Samanga.

[7]Fund for the Promotion of Protected Natural Areas in Peru, a private fund established by law in Peru.

[8]An autonomous community organization composed of women, based on the Peasant Patrol system (recognized by the Constitution of Peru, Art. 149), which exercises jurisdictional, security, and local development functions.

III. MAIN RESULTS

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III. Main results

As a result of the project's implementation in the Samanga Peasant Community, within the framework of an intervention model involving co-design, outreach, and joint validation with local, regional, national, and international partners, outcomes have included strengthened capacities in the GESI approach, organizational development and leadership, and adaptation to climate change, as well as the conservation and restoration of ecosystems through sustainable production practices.

The main results and achievements are presented below.

III.1 Strengthened Organizational and Leadership Capacities for Climate Change Adaptation

a. Training Cycle for Local Community Organizations in Samanga

The project enabled capacity building through seven in-person workshops: "Kickoff Workshop," "Organizational Leadership," "Organizational Management," "Building Equitable Relationships Between Men and Women," "Climate Change, Gender, and Inclusion," "Ecosystem Assessment and Conservation," and "Ecosystem Protection and Management." In addition, activities for the exchange of experiences and knowledge were carried out, such as a women's meeting and two exchange programs: one national, with the Association of Women Conservationists and Entrepreneurs of Mangamangilla-Morropón, Piura; and another international, in Ecuador, with the Quito Water Protection Fund (FONAG).

A total of 118 people participated in the workshops, of whom 69 were men (58.5%) and 49 were women (41.5%). According to the field coordinator, one of the short-term impacts of the workshops was a gradual increase in women's participation. To achieve this result, the following strategies were implemented[9]:

- ✓ **Personalized outreach:** The field coordinator's constant presence in the community enabled personalized visits to families, which helped build a relationship of trust and respect with local stakeholders. This strategy made it easier to agree on the most appropriate days and times to carry out activities (workshops, community work days, and others) without disrupting the community's family and work routines. This resulted in a significant increase in participation in the project's activities.

- ✓ **Promoting greater women's participation (inclusive community work):** The "communal pot" activity, which traditionally assigned women a supporting role in food preparation, was replaced. Instead, in coordination with the participants (men and women), it was agreed that each person would bring their own snacks to participate in the community workdays (called ***mingas***[10]) for reforestation and the protection of forests and paramos. This collective decision freed up women's time and redefined their role, allowing them to participate in the work on equal terms.

[9] Coordinated within the project team with guidance and technical support from strategic partners, such as CDKN, FFLA, and NIWS, to address the distinct needs of men and women.

[10] The "Minga" is a traditional practice of community work, originating in Andean villages, which consists of the voluntary collaboration of a group of people to perform tasks for the benefit of the community or an individual.

- ✓ **Creating safe spaces:** Spaces of respect, trust, and learning were fostered. Participatory methodologies were used in the workshops, where opinions —especially those of people who usually remained silent— were valued, heard, and included. The Espíndola Educational Institution (E.I.) made the commitment to provide classrooms and facilities for the workshops, events, and follow-up and coordination meetings with community and local authorities, transforming the community's center of knowledge into a center for dialogue.

From a qualitative perspective, progress is evident in the strengthening of emerging local leadership, particularly among women and youth, who are capable of coordinating organizational processes for conservation and sustainable production. For example, during the interviews for the systematization, some women said, "when men or husbands do not participate in meetings or collaborative fieldwork, the wives or women are the ones who take the lead and continue the work"; this highlights greater participation by women in fieldwork that is traditionally carried out by men.

Furthermore, it is evident that the theoretical incorporation of topics such as equity in family and community roles, norms regarding domestic violence, and shared responsibility in natural resource management, addressed through workshops, generates practical effects in the community. It can be observed that women enjoy greater freedom to engage in field activities: "Men stay home, for example, when they get sick, and we women go to the farm or the forest; in the past, women did not set foot in the forest." Likewise, community representatives note that both men and women are aware of the impacts of domestic violence. In this regard, it is hoped that this knowledge will help prevent or reduce physical and psychological violence, enabling the peasant patrols, composed of both women and men, to be informed about how to act legally if cases arise.

For community representatives, the theoretical and case studies on gender issues in the workshops facilitated reflection that contributed to practical changes in the community's daily life. According to community members, women now have more freedom; they leave their homes, they gather, voice their opinions, and work alongside men in the fields. One community member notes, "Now everyone is aware of equal rights and that both men and women have the same capacity to perform tasks in the home and in community life," particularly to collaboratively manage and protect their natural resources.

Furthermore, learning through exchanges or internships with associations in Peru and with communities in Ecuador allowed for the sharing of strategies for conservation, community-based management, and the marketing of products with an ecological identity. According to community members, the internship is an activity that significantly contributes to boosting productive activities and integrating new technologies into production processes, as evidenced by the exchanges with the Water Protection Fund (FONAG) in Quito (Ecuador), the Association of Women Entrepreneurs of the Dry Forests of Mangamangilla (Peru), and the Association of Women Entrepreneurs of Buenos Aires (Peru).

In Quito, communities are implementing regenerative livestock practices, adopting low-cost livestock technologies (fertigation, electric fences), and managing water using socially viable and environmentally sustainable techniques that can be replicated in the Samanga Peasant Community, with the potential to increase dairy productivity and climate resilience.

Likewise, the participants emphasize that a product with strong market positioning is not attained solely by forming an organization; it is necessary to ensure product quality and meet a need or demand. A key example is the Association of Women Entrepreneurs of Buenos Aires (ASDEME), which produces chocolate in the Buenos Aires district, with products available in local and regional markets and a strong brand presence. The interns and community members conclude that the venture not only generates sustainable income but also promotes women's leadership and contributes to the conservation of the forest in a protected natural area. This highlights the importance of teamwork between men and women, productive innovation, and adaptation to environmental conditions.

b. Field Schools to Promote Organization and Leadership Among Youth in the Samanga Peasant Community

With a vision of intergenerational sustainability, a Field Schools (FSs) program was implemented at Educational Institution No. 15136 Remberto de Jesús Pardo Ochoa in the Espíndola sector, which was initially designed for 10th and 11th graders. However, during the kick-off workshop, community leaders and school officials proposed including all secondary students. The program involved 120 students in 2024 and 102 in 2025, along with 12 teachers and school administrators.

Fluid communication was established with all secondary school teachers, enabling agreement on the content of the program's theoretical and practical training. The program was structured into four phases: (1) an awareness-raising process on Ecosystem-based Adaptation (EbA) measures with a Gender and Social Inclusion (GESI) approach; (2) a visit to the ***Bosque de Neblina y Páramos de Samanga*** PCA; (3) reforestation activities in public spaces in the town of Espíndola; and (4) murals that reflected the students' knowledge of the effects of climate change and the benefits of implementing EbA measures with a GESI approach. To achieve these results, the following actions were carried out:

- ✓ **Training and Awareness-Raising:** In 2024, through Science and Technology classes, awareness-raising workshops were conducted to address key concepts such as gender equity, social inclusion, ecosystems, climate change, and forest conservation, among other relevant topics.

- ✓ **Territorial exploration:** Teachers from all subject areas and students in the 4th and 5th grades of secondary school visited the community's ***Bosque de Neblina y Páramos de Samanga*** Private Conservation Area (PCA), and were guided and trained in a fun and engaging way by representatives of the Conservation Committee and local authorities on native flora and fauna species, their characteristics, and the community's contribution to the PCA's restoration and conservation efforts.

- ✓ **Active participation:** Teachers and secondary school students carried out reforestation activities in public spaces, including the school, the park, and the entrance to the Espíndola sector. These actions encouraged community participation, with residents contributing to the students' efforts.

- ✓ **Visualizing Knowledge:** The development of the Mural Contest on EbA Measures with a GESI Focus was more than just an artistic event; it was a practical strategy for inclusive leadership that enabled the formation of work teams for each mural, composed equally of two students from each grade level—both male and female. This methodology ensured that creativity and artistic expression emerged from a collaborative process among students of different grades, who typically did not interact. In this way, the generational transition for the future management of ecosystems was strengthened, demonstrating that it is possible to promote teamwork among people of different ages and genders.

The art teacher emphasized that "this contest practically embodied critical thinking for change," that is, the aspects students learned throughout the process regarding gender equity and social inclusion, as well as ESD measures for environmental stewardship. In summary, the integration of gender and social inclusion was put into practice through:

- The balanced composition of teams with students of different genders and from different grades (7th to 10th grade).
- The assignment of an advisor to each team.
- The promotion of active participation by all young people, encouraging leadership, collaborative work, and the free choice of design elements for each mural.

During the mural contest, community leaders noted that “the entire community was following the progress of the murals.” They also highlighted the importance of incorporating conservation, forest restoration, and water stewardship into the school curriculum. They stated that “for the future, we already know that our sons and daughters are aware of the importance of the forest; now we all know that we depend on it".

For their part, the students, gathered in a focus group, expressed that learning about GESI and forest conservation is essential. They indicated that they understand that climate change, water scarcity, and extreme droughts are consequences of climate change. They also stated that they are aware that trees, in addition to providing oxygen, play an essential role in water generation. For this reason, they say they now plant trees on their own initiative and share messages at home such as: “If you cut down a tree, plant another one, or more than one".

The school principal emphasized that the combination of theory and practice was key in changing student behavior. The knowledge imparted at the field school enabled the development of applied activities, such as reforestation in public spaces, garden maintenance, and the organization of a mural contest that generated great excitement in the community, which actively participated in its creation and evaluation. Subsequently, the students expressed interest in updating some older murals to strengthen local identity by linking it to the values of conservation and inclusion promoted by the community.

III.2 Conservation and Restoration of Ecosystems Through Sustainable Productive Practices That Help Reduce the Community's Climate Vulnerability

The development of capacity-building initiatives served as a bridge to organize and implement EbA measures such as protective fencing, revegetation with native species, and the establishment of agroforestry plots with mechanized irrigation, the details of which are presented below:

a. Protection of the Bosque de Neblina y Páramos de Samanga Private Conservation Area (PCA)

Physical protection of the perimeter of the Private Conservation Area (PCA) was achieved through the installation of a five-kilometer protective fence to prevent unauthorized access (livestock or agricultural expansion) to vulnerable hydrological areas. This initiative exceeded the initial goal of four kilometers, thanks primarily to additional fencing work carried out at the community's own initiative. The result was achieved through eleven community workdays, totaling 374 person-days of community labor, of which 257 were contributed by men and 117 by women, distributed across the sectors of Espíndola, Santa Julia, Unión Alta, and El Toldo.

The physical protection of the forest containing water sources, through perimeter fencing, is the result of a participatory process based on the ancestral practice of community work parties (mingas), which facilitates the active collaboration of the community, including men and women of all ages.

One aspect highlighted by community representatives is that, during the fence construction process, a compensation mechanism was implemented, allowing community members to provide the poles or posts for the fencing at each minga in exchange for monetary compensation, which was distributed equitably among the participants.

For FORASAN Piura, this mechanism proved fundamental in promoting the participation of the entire population, generating an equitable economic benefit that strengthened the gender approach and social inclusion. Likewise, it enabled the joint participation of men and women in the protection of strategic areas for ecosystem conservation and water supply. This strengthened local governance through participatory planning, coordination, and fulfillment of commitments.

b. Revegetation of the Bosque de Neblina y Páramos de Samanga Private Conservation Area (PCA)

In order to contribute to the restoration of water-generating and regulating ecosystems in the Samanga Peasant Community, 25 hectares of cloud forest, identified through a participatory process in the sectors of Santa Julia (8 ha), Unión Alta y Toldo (8 ha), and Espíndola (9 ha) were replanted with seedlings of native species like alder, rosemary and tarragon. It should be noted that the project was initially designed to implement Nature-based Solutions (NbS) measures solely with the conservation committee of the Espíndola sector. However, during project monitoring and planning meetings with local partners, a request was made to involve other sectors bordering the PCA. They were included, and coordination was established with the conservation committees of the aforementioned sectors.

During revegetation, the inclusion of ancestral knowledge and local customs was encouraged. This was reflected in the selection of species for revegetation and in the organization of community workdays (mingas), which primarily involved adults to reduce vulnerability to risks (accidents) associated with rain and rural hazards. The mingas were held during the rainy season to maximize the effort's success.

The work was achieved through nine community workdays, totaling 187 person-days of community work, of which 136 were contributed by men and 71 by women from the three sectors. Community representatives highlighted the prior organization of the community workdays, which included meetings to present technical fact sheets (containing information on goals, activities, roles, and budget) as well as opportunities to address questions. This process established commitments and ensured the community support necessary to achieve the expected results.

Community members noted that the way the ***minga*** was implemented has brought about a positive change: "Now women are an integral part of this community work practice". Previously, women's participation focused on providing food for the men working on the ***minga***; "now we all have breakfast at home and each person brings their own packed lunch".

Likewise, the president of the Private Conservation Area (PCA) emphasized that the inclusion of women in fieldwork has significantly strengthened forest management and protection efforts by expanding the workforce and promoting equitable participation. Men, women, and youth work together, consolidating a comprehensive and participatory management model that reinforces the collective commitment to forest conservation.

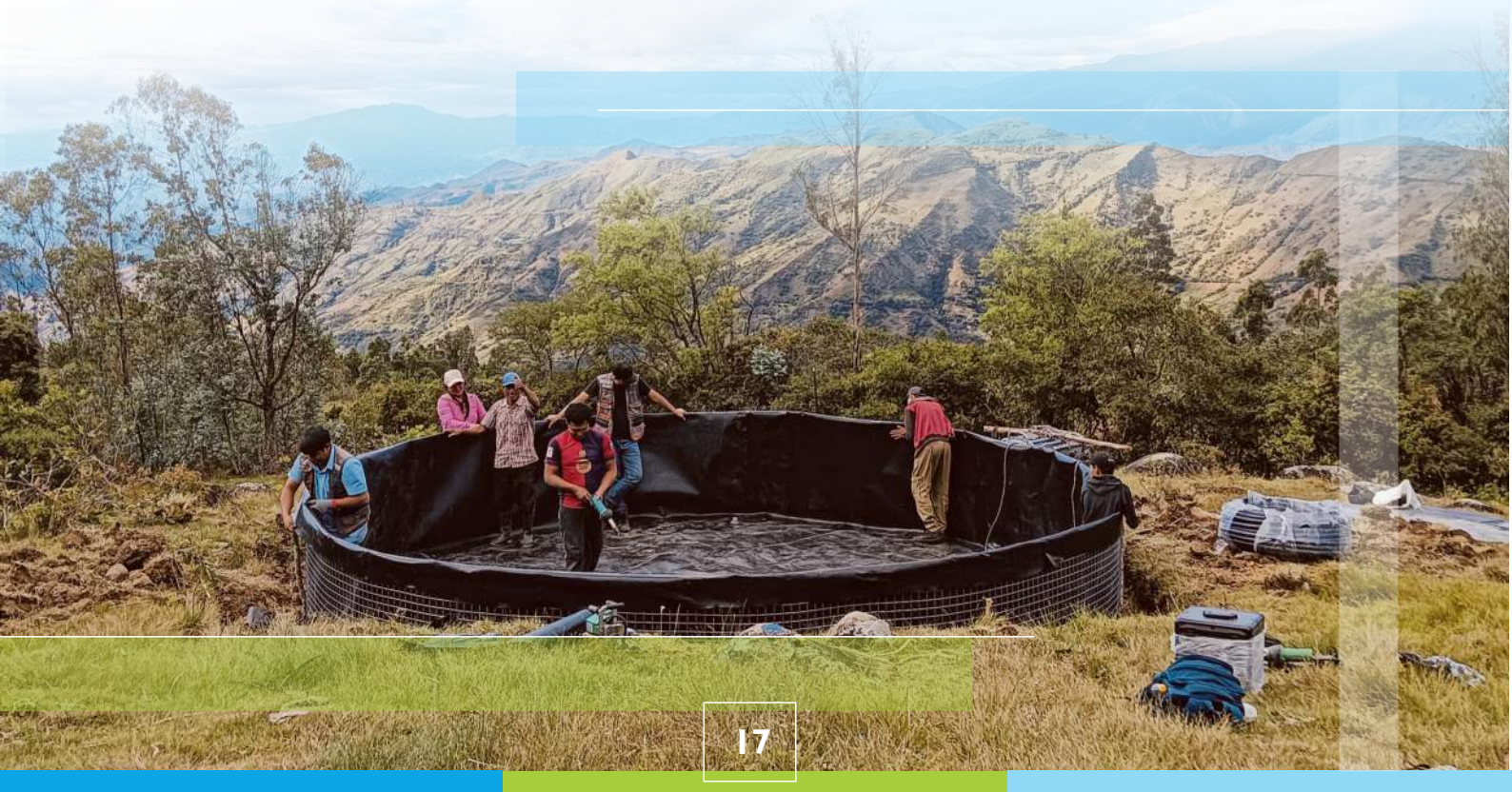
For FORASAN Piura, implementing this type of ***minga*** made it possible to carry out the reforestation process over three days of ***minga*** in each sector (for a total of nine days of ***minga***); this was considered an intensive or rapid approach compared to the Fund's previous efforts in the same area.

As with the fencing, a compensation mechanism was also implemented to provide seedlings for reforestation. For community members, this compensation mechanism serves as an incentive that values collective effort for the common good. They are also aware that their contribution through community work is essential in ensuring the benefits (ecosystem services) that the forest will provide to the community.

c. Improving Production Processes That Strengthen the Association of Agricultural and Livestock Producers for the Conservation of the Neblina and Páramo Forests of the Samanga Peasant Community.

2.5 hectares of pilot agroforestry-pastoral plots were established, equipped with mechanized sprinkler irrigation systems, to facilitate forage production during the dry season and thus ensure its availability for cattle feed, thereby maintaining milk production, the raw material for processing dairy products and their subsequent marketing. The pilot project demonstrated that adaptation measures to climate change can be implemented using low-cost technology.

In addition, a technical and economic proposal was developed, including a business plan and a production improvement plan, aimed at strengthening the association in milk production and the processing of dairy products such as yogurt, custard, and cheese. This proposal will allow the association to apply for competitive funding at national and international levels, with the aim of securing financial resources and implementing the planned actions in a timely manner.



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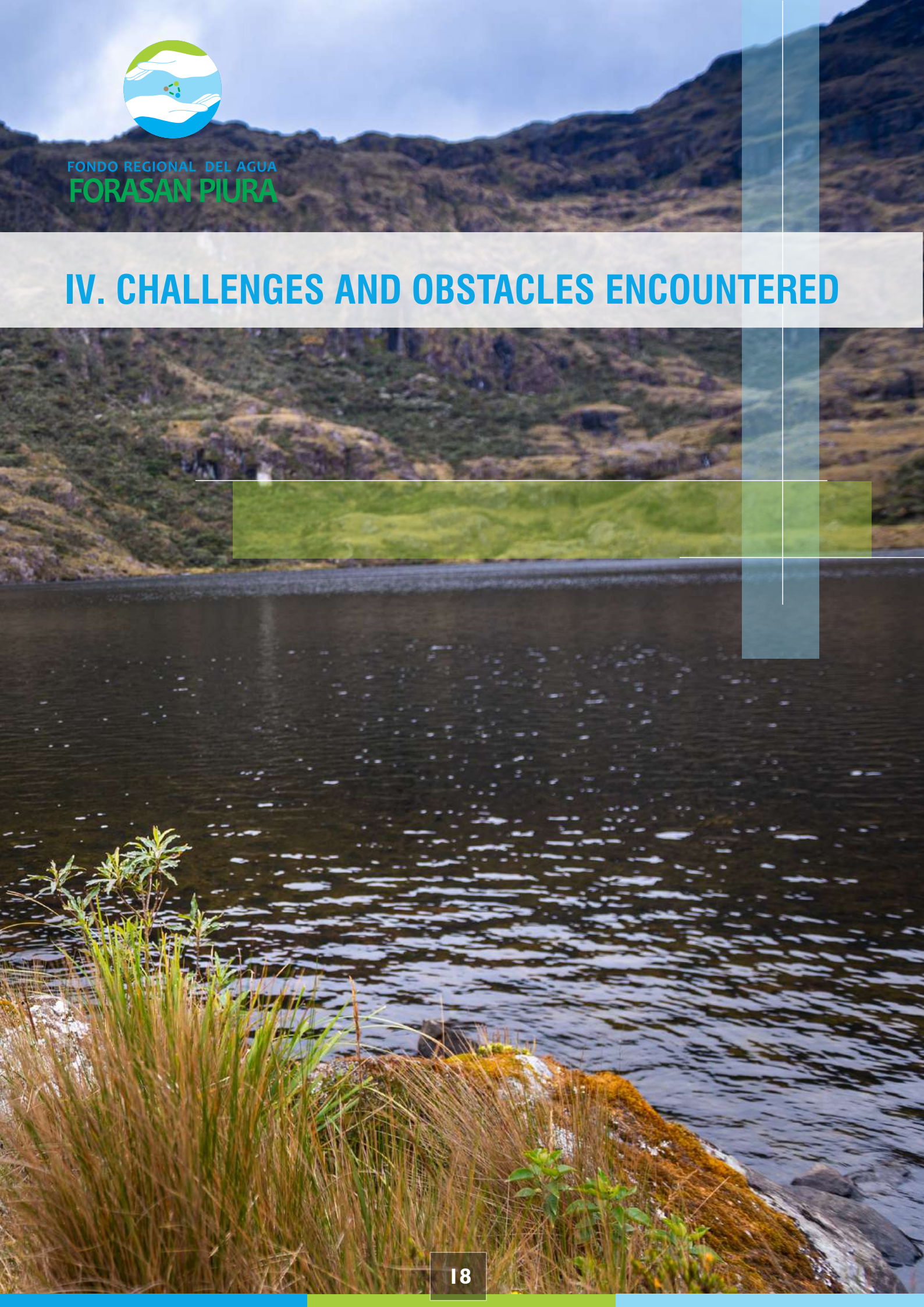
IV. CHALLENGES AND OBSTACLES ENCOUNTERED



IV. Challenges and Obstables Encountered

LImplementing the project in the Samanga Peasant Community serves as a source of learning for the community itself, local stakeholders, FORASAN Piura, and its strategic partners. This process identifies various challenges in the region and defines strategies to address them, promoting the responsible and orderly use of resources.

a. Achieving Sustainability of Processes on Site

From the community representatives' view, a key challenge is fully restoring degraded areas. It is essential to strengthen governance and uphold responsible stewardship in forest care. Although the project helped improve organizational capacity, the long-term challenge for community leaders is to effectively safeguard the conservation area and its buffer zones.

Harmony between environmental conservation and productive development is a fundamental challenge that will enable progress toward a truly sustainable territory. The community faces the challenge of integrating forest care into its productive activities, thereby ensuring water supply for agriculture and livestock. It also seeks to responsibly continue other economic activities in the area, such as woodworking, and explore new opportunities, such as fish farming, without compromising the health of the ecosystem that sustains its way of life.

b. Strengthening Sustainable Government Participation

A key opportunity lies in consolidating active and sustained participation by local and regional governments in the design and implementation of activities. The next step is to design a joint strategy to ensure continuous intervention. This will strengthen territorial governance and promote the consolidation of strategies with the potential to be replicated at a larger scale. The main challenge lies in ensuring the permanence of such participation to facilitate the integration of the model into public policies and to ensure a multi-stakeholder response to environmental issues.

c. Scaling up the Intervention

For those implementing this type of initiative, the experience in Samanga presents the challenge of replicating the model elsewhere and on a larger scale. It is not merely a matter of expanding physical goals (such as increasing the number of hectares reforested or kilometers of fencing) but of adapting a flexible management model that promotes a consistent and coordinated presence across broader territories, integrating diverse communities and strategic partners.

d. Deepening Educational Intervention

It was identified that achieving lasting cultural change requires expanding the scope of the educational component. The challenge is to integrate environmental education from the first grade of regular basic education, fostering the development of environmentally responsible citizenship from childhood onward, with a focus on gender and social inclusion. Community and educational authorities raised this issue as a barrier to the sustainability of multi-stakeholder actions.

e. Post-investment Sustainability

For community leaders, the main challenge is institutionalizing the operation and maintenance of recovered and conserved areas. This requires establishing agreements and defining responsibilities so each sector can schedule periodic community workdays to ensure the forest's good health. For its part, FORASAN Piura faces the challenge of sustaining its intervention in the post-investment phase, contributing to the community-based strengthening and institutionalization of forest operation and maintenance actions.

V. LESSONS LEARNED

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V. Lessons Learned

This section summarizes the main lessons learned in both technical and social dimensions. The experience demonstrated that achieving effective multi-stakeholder coordination required flexibility in planning, a permanent on-site presence, and the incorporation of innovations adapted to the local context. These were decisive factors in strengthening the intervention. Likewise, alignment with community traditions, the promotion of gender equity, and the use of relevant incentives contributed to generating sustainable changes and to consolidating a solid partnership between the implementing team and the local community.

a. Lessons Learned from the Management Process

✓ **Flexibility as a Principle of Strength:**

The main lesson learned from the management process was the decision to adopt flexibility as a guiding principle. This principle allowed for the continuous adjustment and updating of the project, from its conception, design, formulation, and implementation, adapting it to the changing needs of the community and its partners. Far from undermining the project's purpose, this adaptability strengthened the intervention. This was reflected both in the achievement of physical goals and, especially, in the qualitative outcomes observed in the community.

For example, the technical team aligned its schedule with the community's availability, ensuring effective participation. Likewise, although the original design of the protection and revegetation activities was limited to the Espíndola sector, the scope was redefined following follow-up meetings on the intervention with community authorities. This approach allowed the intervention to be expanded to the Unión Alta–El Toldo and Santa Julia sectors, which not only increased community participation but also optimized logistics to achieve goals.

✓ **Permanent Presence as a Driver of Trust:**

A key lesson from the process was the need to establish a project focal point in the area, represented by the field coordinator. Her permanent presence—described by community leaders as "unusual"—proved essential for strengthening bonds of trust and shared responsibility with the community. This proximity not only allowed answering questions and providing technical support but also acted as a driver for social inclusion: daily interaction fostered trust and motivated meaningful participation from women and youth, who found an accessible and safe channel for dialogue. As a result, a strong sense of belonging was fostered within the community, transforming the traditional "implementer-beneficiary" relationship into a local partnership based on cooperation and mutual commitment.

b. Innovation Lessons for Greater Impact

✓ **Gender equity that drove an "inclusive** minga**" for conservation:**
The implementation of the "inclusive ***minga***" represented a significant social innovation aimed at promoting gender equality and optimizing the efficiency of community work. The decision to eliminate the traditional "communal pot," which resulted from the safe spaces for dialogue that had been established, led to an agreement that women would step away from their usual role of providing logistical support and actively participate in fieldwork to care for the forest, thereby doubling the effective workforce. This lesson shows that gender equality is strengthened through specific structural changes that can alter daily habits and redefine traditional gender roles within the community, starting with equity.

✓ **Incentives that strengthen local traditions:**
The implementation of compatible economic incentives was built on a key strategy that, taking into account the community's organizational dynamics, successfully integrated technical requirements with local collective traditions. Payment for ecosystem services, granted based on the number of posts or saplings installed rather than daily wages, allowed for the recognition of participants' economic needs without undermining the spirit of solidarity and reciprocity inherent in the minga. This lesson demonstrates that it is possible to harmonize individual interests with community values, thereby reinforcing the collective commitment to restoring water ecosystem services and guaranteeing water availability in terms of quantity, quality, and timing.

An incentive for coordination among the various community actors was the promotion of self-managed community services. The community organized a rotating schedule of food services—snacks and lunches provided for the project workshops—managed by the church, the educational institution, and social organizations.

This procurement model strengthened internal cooperation, ensuring that the economic benefits derived from the intervention were distributed equitably and for the community's benefit. According to community leaders, this approach fostered active participation and a sense of belonging among the population, which was reflected in higher attendance at community workdays and other project activities.

c. Sustainability based on economic benefits for producers:

Long-term conservation can only be sustained if it is directly linked to people's well-being. In this regard, the organizational and leadership capacity of grassroots social organizations such as APACBONPAS was strengthened through the development of business plans and productivity improvements.

Experience shows that a healthy and sustainable ecosystem requires profitable production chains that generate income and motivate the protection of natural resources.

The main lesson is that a key strategy is to make conservation the most efficient option both for those living in the area and for those who depend on its ecosystem services.

FONDO REGIONAL DEL AGUA
FORASAN PIURA

VI. REFLECTIONS (OUTLOOK)

VI. Reflections (Outlook)

The following reflections, based on the project's implementation, suggest that the lessons learned are not only relevant locally but also hold high potential for regional scalability and influence on national public policies, reaffirming that ecosystem conservation is a strategic investment to contribute to human well-being and water security. These reflections and perspectives are oriented toward three levels of territorial management.

a. Local: Toward comprehensive sustainability based on community strengthening

The project demonstrated that strengthening local capacities such as community leadership (men and, particularly, women and youth) and the recovery of ancestral knowledge can be effectively integrated with ecological restoration strategies and techniques. Inclusive community work parties —the integration of women into traditionally male roles—and school involvement not only changed social practices but also reshaped power dynamics, equity, and shared responsibility in the management of community land.

Looking ahead, it is a priority to consolidate this community-based sustainability through mechanisms that strengthen local governance, in which stakeholders themselves manage the maintenance and expansion of the areas where interventions have taken place, thereby contributing to the restoration of natural ecosystems. This will involve institutionalizing agreements for the maintenance of these areas, managing community funds, and engaging young people from an early age to become stewards of the land through ongoing educational programs that connect them to their environment.

b. Regional: Scalability and multisectoral coordination are key to expanding impact

The experience in Samanga reveals the potential for replicating the EbA with GESI approach in other Andean communities. The project achieved visible environmental and social impacts with a low-cost investment and consolidated an adaptable participatory methodology that has been incorporated into the operations of FORASAN Piura.

Looking ahead, a clear strategy for horizontal scaling (to other communities) and vertical scaling (toward public policies) will be crucial. This includes strengthening FORASAN Piura's advocacy role to ensure greater involvement of subnational governments and private actors. It is proposed to create a roadmap that combines technical assistance, policy advocacy, and social capital to expand the model's coverage to other areas, generating more sustainable and coordinated regional impacts, and contributing to the intervention of the 350,000 ha of priority areas identified in the Chira-Piura Basin Water Resources Management Plan.

c. National: Strengthening the conservation paradigm

The Samanga experience reaffirms and strengthens the conservation paradigm, demonstrating that protecting an ecosystem is neither an end in itself nor an activity opposed to development, but rather the smartest investment to ensure water security and collective well-being. Likewise, it demonstrates that effective conservation requires strengthening the sense of belonging and territorial identity of local communities and organizations, promoting their active and inclusive participation in the sustainable management of natural resources.

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The project " Ecosystem Restoration through Ecosystem-Based Adaptation (EbA) Measures, with a Focus on Gender Equality and Social Inclusion (GESI) in the Samanga Peasant Community" in Ayabaca, Piura, Peru, was implemented:

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