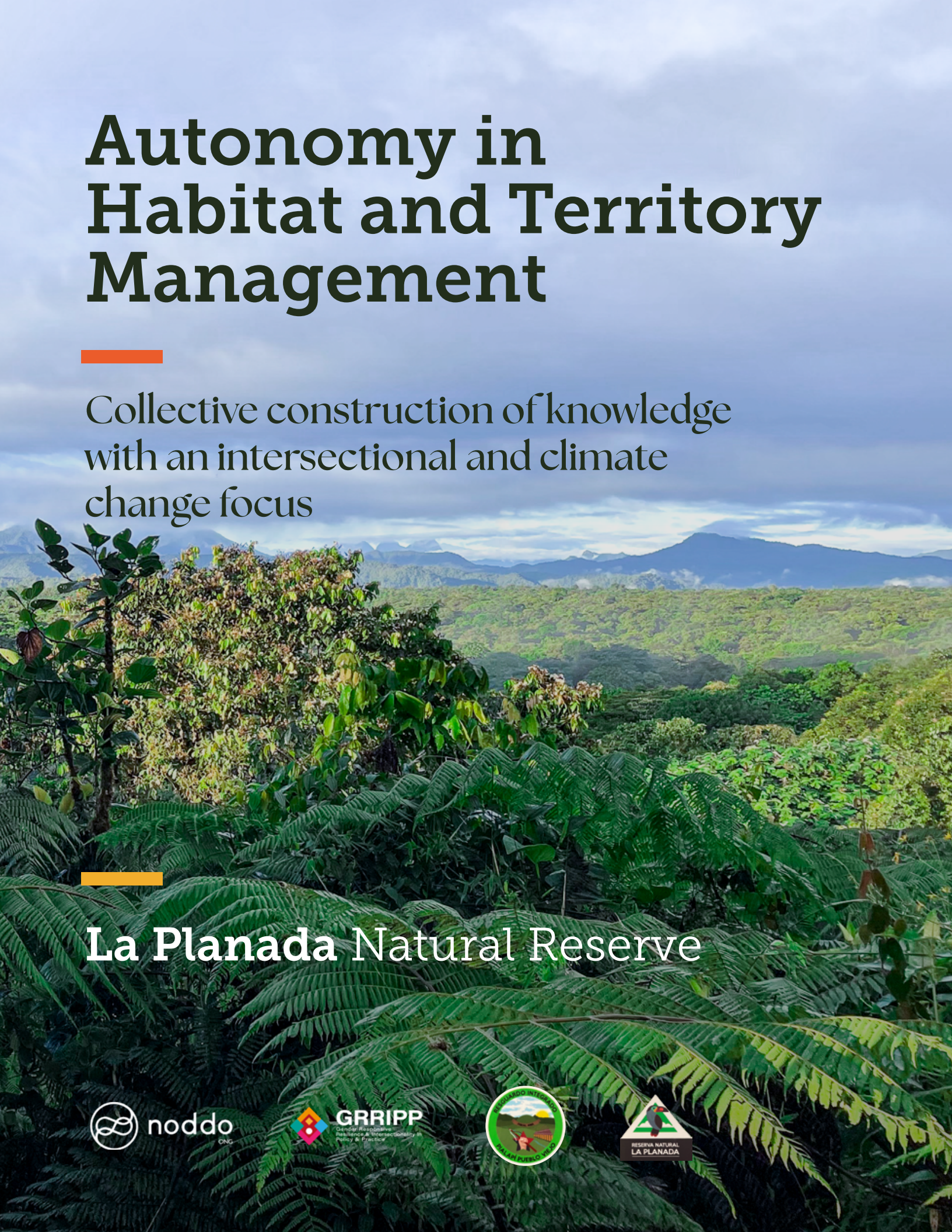
Autonomy in Habitat and Territory Management

Collective construction of knowledge with an intersectional and climate change focus



La Planada Natural Reserve

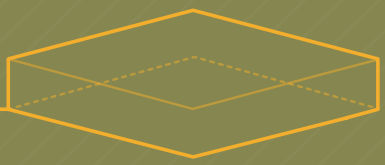
noddo ONG

GRRIPP
Gender Responsive Resilience & Intersectionality in Policy & Practice

RESERVA NATURAL LA PLANADA

Drawings made within the framework of this project, during the Botanical Illustration Workshop, by the participants of the Pialapí Pueblo Viejo Reserve.

Content



AUTONOMY IN HABITAT AND TERRITORY MANAGEMENT

Collective construction of knowledge with an intersectional and climate change focus

La Planada Natural Reserve

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Acronym

- ACIPAP - Asociación de Cabildos Indígenas del Pueblo Awá del Putumayo.
- AGRA Arquitectos – Anzellini García-Reyes Arquitectos.
- CAMAWARI - Cabildo Mayor Awá de Ricaurte.
- ESRC - Economic Social Research Council.
- FARC – Fuerzas Armadas Revolucionarias de Colombia.
- FCAE - Federación de Centros Awá del Ecuador.
- GRRIPP - Gender Responsive Resilience & Intersectionality in Policy and Practice.
- IWGIA - International Work Group for Indigenous Affairs.
- PAR - Participatory Action Research.
- RNLP - Reserva Natural La Planada.
- RPPV - Resguardo Indígena Pialapí Pueblo Viejo.
- TCyN - Turismo Científico y de Naturaleza.
- UCL - University College London .
- UNIPA - Unidad Indígena del pueblo Awá.
- WWF - World WildLife Fund.

EXECUTIVE SUMMARY

In 2010, La Planada Natural Reserve (RNLP) was transferred by the FES Foundation to the Indigenous Reserve of Pialapí Pueblo Viejo (RPPV) for the care, conservation, protection, and sustainable development of over 3,200 hectares of Andean cloud forest. Since then, the Awá indigenous people have had autonomy in the management and use of the Reserve.

This collective research project aims to contribute to the consolidation of the RNLP and the strengthening and sustainability of the unique conditions of this ecosystem, its landscapes, and the community's livelihoods. It does so through the analysis of habitat and territory using two main lenses: climate change and intersectionality (with a focus on gender and ethnicity).

The research has produced this practical guide that will guide infrastructure interventions related to the science and nature tourism project. The guide encompasses the successive, progressive, and planned construction of infrastructure and tourist furnishings by respecting, integrating, and, if necessary, reinterpreting ancestral or traditional knowledge (typologies, techniques, and materials).

INTRODUCTION

For over 60 years, Colombia has experienced one of the longest armed conflicts in contemporary history. The dynamics of the conflict have primarily affected rural areas of the country. In many regions the social relations and the ways in which local communities interact with their own territories have been shaped and transformed by multiple armed actors (guerrillas, paramilitary groups, criminal gangs, drug traffickers, the State, among others).

According to reports from the Constitutional Court, the National Indigenous Organization of Colombia, and IWGIA (IWGIA, 2022), out of the 115 indigenous peoples occupying national territory, 68 are at risk of physical and cultural disappearance due to causes associated with the armed conflict. Among them is the Awá people (Truth Commission, 2022), whose population, numbering around 25,000 inhabitants, primarily resides in reserves in the southwest of Colombia, in the departments of Nariño, Cauca, and Putumayo, and in northern Ecuador.

Despite being recognized as collective territories where the rights to autonomy, self-management, and self-governance[1] are granted, daily indigenous communities face increasing risks in defending their territories. According to information from the National Center for Historical Memory (2021), the indigenous peoples most affected by the armed conflict have been those inhabiting the Pacific and Caribbean regions, territories that have suffered due to territorial control disputes and illicit activities such as drug trafficking and mining-energy exploitation involving paramilitary groups, guerrillas, and state forces.

Currently, following the signing of the Peace Agreement and the disarmament of the FARC guerrilla, new groups have taken control of the territory, increasing illicit crop cultivation and drug trafficking. This has brought new challenges to be faced by the RNLP and the indigenous communities that make up the RPPV. These challenges add to the gaps indigenous peoples face at the national level, including issues related to land access, structural discrimination, and disparities in socio-economic aspects such as health and education.

Furthermore, the RNLP faces significant challenges in the face of socio-environmental transformations brought about by climate change. Due to climate variations in the region, bird species, amphibians, and epiphytic plants identified in the territory in previous decades have disappeared. Additionally, certain plant species such as palms, vines, and ferns, which have been essential for traditio-

***1** Since 1991, the Colombian Constitution has recognized the multiculturalism and ethnic diversity of the country and the importance of protecting the territorial and fundamental rights of indigenous peoples.

«,.The RNLP is currently focused on focused on strengthening the scientific and nature tourism and nature tourism,.»

nal livelihoods, construction, and the production of items like baskets and canoes used by the Awá people, have significantly declined.

With these changes, the typologies, techniques, and use of vernacular materials in the built environment have also transformed. While the existence of "living" artisanal techniques is recognized, there is a risk of their disappearance as the transmission of ancestral knowledge related to techniques and materials in the territory has weakened. These impacts can lead to a greater scarcity of basic construction raw materials. Some of them have already been replaced by unsustainable elements, forms, and techniques in that context.

Currently, the RNLP is focused on strengthening scientific and nature tourism to consolidate it as its main source of income. This provides an alternative to traditional livelihoods and contributes to the management and conservation of the territory.

Therefore, autonomy in habitat management (understood as the environment in which human beings develop) becomes a fundamental factor in conducting community initiatives that promote a sustainable development of the territory, the conservation of ecosystems, the generation of alternatives for the built environment, and the strengthening of local governance processes.

Within the framework of the umbrella project GRRIPP (Gender Responsive Resilience & Intersectionality in Policy and Practice)[2], and in direct relation to the thematic axis of "Disaster Risk Management and Climate Change Adaptation and Mitigation," the project carried out by Noddo NGO and the Awá indigenous community intertwined the community's knowledge and dynamics with the demands of contemporary times. This was achieved through collective and horizontal actions of knowledge construction, facilitating the creation of tools for autonomous management of small and medium-scale infrastructure in the reserve.

***2** Four-year global collaboration project, funded by the Global Challenges Research Fund and implemented by a collective of universities, that aims to promote a gender-sensitive approach to disaster management and development through theory, policy, and practice.

THE GUIDE

1. What is it?

The Guide is a capacity-building tool for autonomy in habitat management, specifically for the development of infrastructure associated with scientific and nature tourism. It has been developed through the following actions:

1. Analysis and diagnosis of issues and opportunities.
2. Collective planning and management.
3. Planning strategic actions (prioritization, stages, and interventions).

2. How is it organized?

PART I: Tools for autonomy in habitat and territory management.

Targeted towards communities working towards the development of their territories.

- **Methodologies and practical tools** to develop basic skills for strategic planning of the territory and management of small-scale infrastructure projects.

PART II: Autonomy in habitat and territory management in La Planada Natural Reserve.

Targeted towards the Pialapí Pueblo Viejo Reserve due to their role as conservators of the RNLP and managers of the scientific and nature tourism project.

- **The narrative of the process** and the application of methodologies and tools to strengthen capacities in this specific context

3. Who is it aimed at?

1. Members of the Pialapí Pueblo Viejo Reserve (leaders, members of the RPPV Council, employees of the RNLP, and groups of men and women working on the Scientific and Nature Tourism project).

2. Future generations of Awá indigenous people, who are the most important agents of change within the RNLP.

3. Indigenous, Afro-descendant, and peasant communities in Colombia and Latin America who can apply the methodology resulting from the process (outlined in this Guide) and adapt it to the specific conditions of their territories and communities.ás importantes dentro de la RNLP.

4. Guiding principles

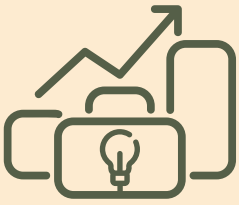
The following principles are an integral part of our understanding of the process and permeate the strategies and tools outlined in this guide

Collective

Knowledge is constructed through the exchange of community knowledge and the expertise and experience of architects, technicians, and professionals.

Flexible / Adaptable

The knowledge produced embraces the local conditions of the territory and culture and adapts them in response to identified needs.



Progressive

The action plan for interventions is established based on high, medium, and low priorities, taking into account project needs, economic possibilities, and available labor.

Respectful

The knowledge derived from the exchange respects the timing, moments, opportunities, and possibilities of the community and the environment where the works are implemented.

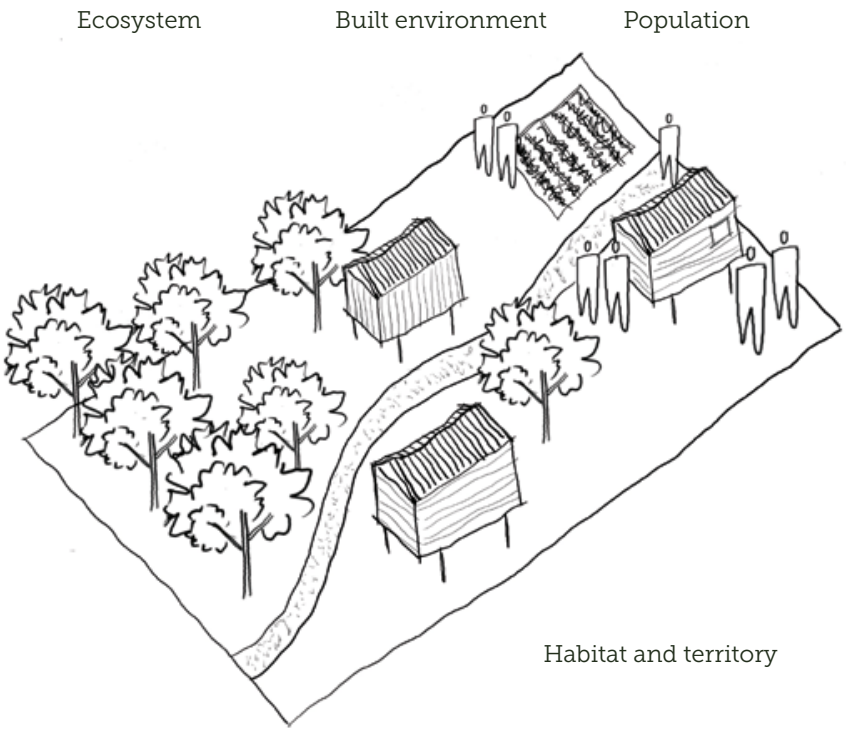
A dynamic process for managing habitat and territory.

5. Objectives

1. Provide methodological and practical tools for autonomy in the management of territory and habitat for communities focused on the development of small-scale infrastructure with an intersectional and climate change focus.
2. Contribute to the sustainable growth and strengthening of the RNLP through the collective construction of a road-map for the planning, management, and implementation of infrastructure associated with the scientific and nature tourism project.

6. Analytical Approach

As a starting point, processes aimed at autonomous management of habitat and territory are dynamic processes constantly redefined by various forces and actors. Therefore, an in-depth analysis of the territory (ecosystem, built environment, and population) is conducted, viewing them through two intersecting lenses: intersectionality and climate change.



Habitat and territory

- **The territory** is the space in which dynamic relationships occur among the ecosystem, built environment, and population.
- **The ecosystem** is a complex natural system in which living organisms and natural elements interact.
- **The built environment encompasses** everything that has been constructed by humans, including paths, trails, stairs, and larger infrastructure such as houses or classrooms.
- **The population** refers to the group of individuals who inhabit the territory and share common characteristics.

7. Working Methodology

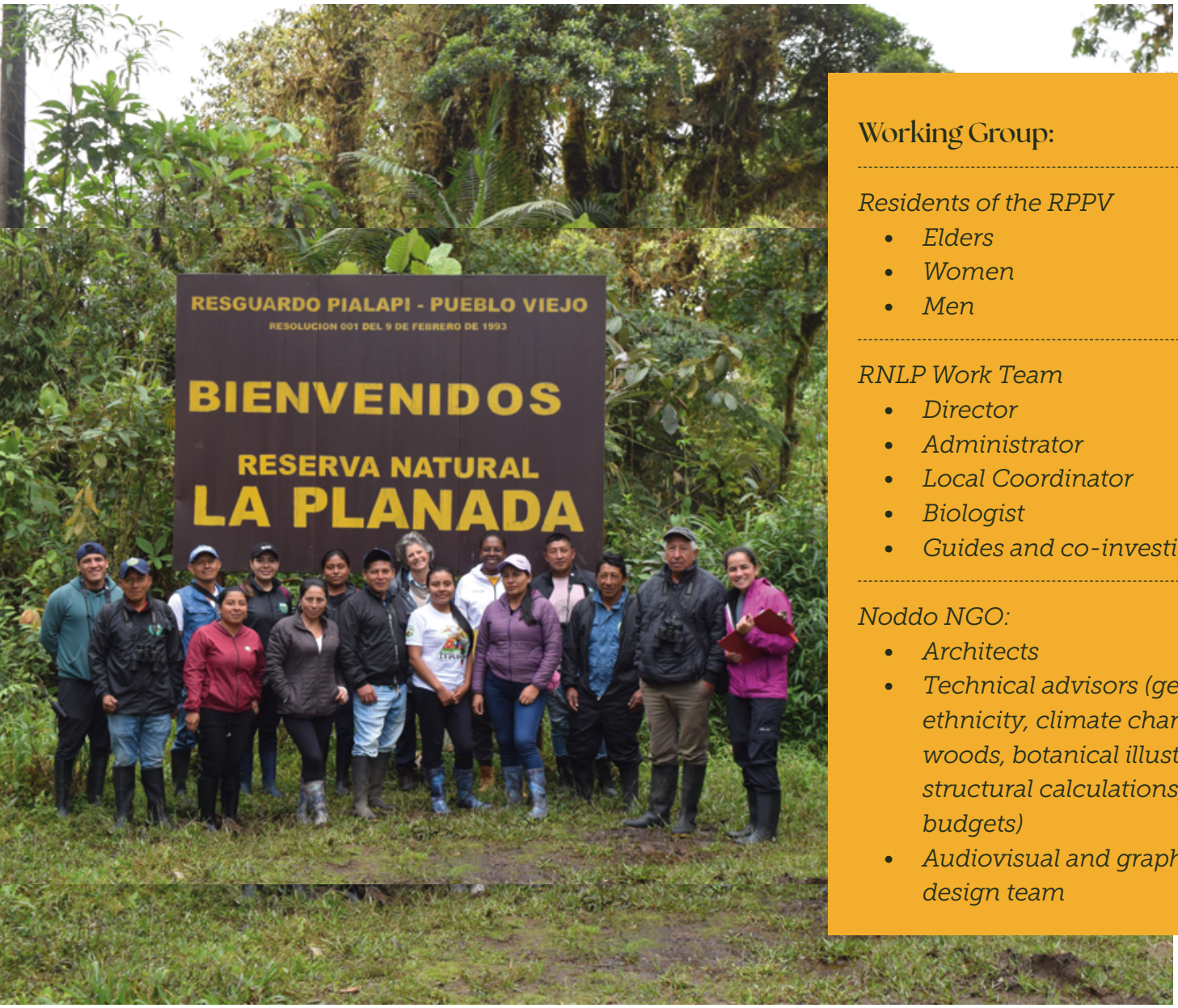
The project and its activities were guided by the following umbrella methodologies:

- **Participatory Action Research (PAR):** PAR is a methodology that brings together multidisciplinary participatory activities to generate knowledge, action, and change within a specific community context. It allows researchers and collectives to understand and transform the practices in which they participate and the situations they encounter through action and critical self-reflection.

- **Collective Knowledge ©** This methodology, developed by AGRA Arquitectos for habitat-related projects, is a dynamic construction that expands and adapts through collaborative work between residents and technical teams. It is structured based on field and office moments, actions, or activities to generate architectural and technical solutions that are coherent with the context in which they are situated. It focuses on the specific environmental and territorial conditions of the place and the communities' ways of life through active interaction among inhabitants, technicians, and professionals.

8. Collective Work

This Guide was structured and co-produced through a mutual learning process, facilitated through dialogue spaces that allowed for a fluid exchange of knowledge and insights between members of the RPPV involved in the Scientific and Nature Tourism project of the RNLP and social researchers, architects, and artists as part of the Noddo team.



Working Group:

Residents of the RPPV

- *Elders*
- *Women*
- *Men*

RNLP Work Team

- *Director*
- *Administrator*
- *Local Coordinator*
- *Biologist*
- *Guides and co-investigators*

Noddo NGO:

- *Architects*
- *Technical advisors (gender, ethnicity, climate change, woods, botanical illustration, structural calculations, budgets)*
- *Audiovisual and graphic design team*

9. Stages and Activities

The project was carried out in five stages, oriented as follows:

Stage 1 **Recognition**

Co-producing knowledge about the territory, place, and community.

Specific objectives:

- Understand the social, economic, political, and cultural dynamics of the territory.
- Identify ancestral and traditional construction practices associated with habitat and collectively explore their applications and relevance in the current context.
- Understand the livelihoods under an intersectional approach (age, gender, and ethnicity) and their variations over time.
- Identify the knowledge and skills of the participants and their interests in other trades and fields.
- Identify the impacts and variations in habitat, territory, and culture as a result of climate change.
- Understand the power relations, intersectionality, and gender associated with conservation and restoration dynamics of the territory to strengthen the active participation of women and promote equity in decision-making processes regarding habitat and territory.
- Learn about natural resources, their availability, and applications.
- Learn about community initiatives resilient to climate change.

			Activities
Preliminary Activities (At the office)	• Preliminary Meetings (virtual). • Elaboration of the work plan. • Development of the Schedule.	Collection of documentary information: • Maps. • Aerial photographs. • Studies and research.	Development and/or Collection of Models and Base Plans of the Territory.
Field Visit 1	Territory Tours. Identification of useful raw materials.	Activity: Knowledge and Skills - Knowledge and Expectations. Roundtable Discussion: Gender Roles and Dynamics.	Roundtable Discussion: Environmental Transformations.

Stage 2
Analysis and Consolidation

Systematize and study the information obtained during the first stage. Formulate subsequent activities.

Specific objectives:

- Interpret or reinterpret habitat elements in the territory: infrastructure for tourism and scientific research, local architecture (typologies, techniques, and materials).
- Propose design alternatives for the construction of infrastructure adapted to variability and climate change.
- Plan actions that promote the construction of more equitable spaces for the participation of all stakeholders in the process.

Activities

At the office	Strengths and weaknesses, as well as opportunities and threats identified in Field Visit No. 1.	Formulation of potential areas for capacity strengthening.	Consolidation of potential topics to work on for capacity strengthening regarding practices associated with autonomy in habitat and territory development.

Stage 3
Learning

Exchange and generate experiential and technical knowledge between residents and professionals to consolidate new learning.

Specific objectives:

- Deepen knowledge about local resources available for appropriate interventions in TCyN infrastructure.
- Understand the strengths and interests of community members regarding the aspects related to the TCyN project, specifically in construction.
- Enhance skills related to the development and interpretation of architectural drawings.
- Transmit and share technical knowledge about woods, botanical illustration, ancestral or traditional architecture, and their construction terms.
- Introduce the phases to consider in the design and construction process of an infrastructure.

Activities

Field Visit 2	Roundtable: Memory, Techniques, and Traditional Architecture.	Architectural Blueprint Interpretation Workshop.	Botanical Illustration Workshop.
	Wood Workshop.	Feedback on Stages 1 and 2.	

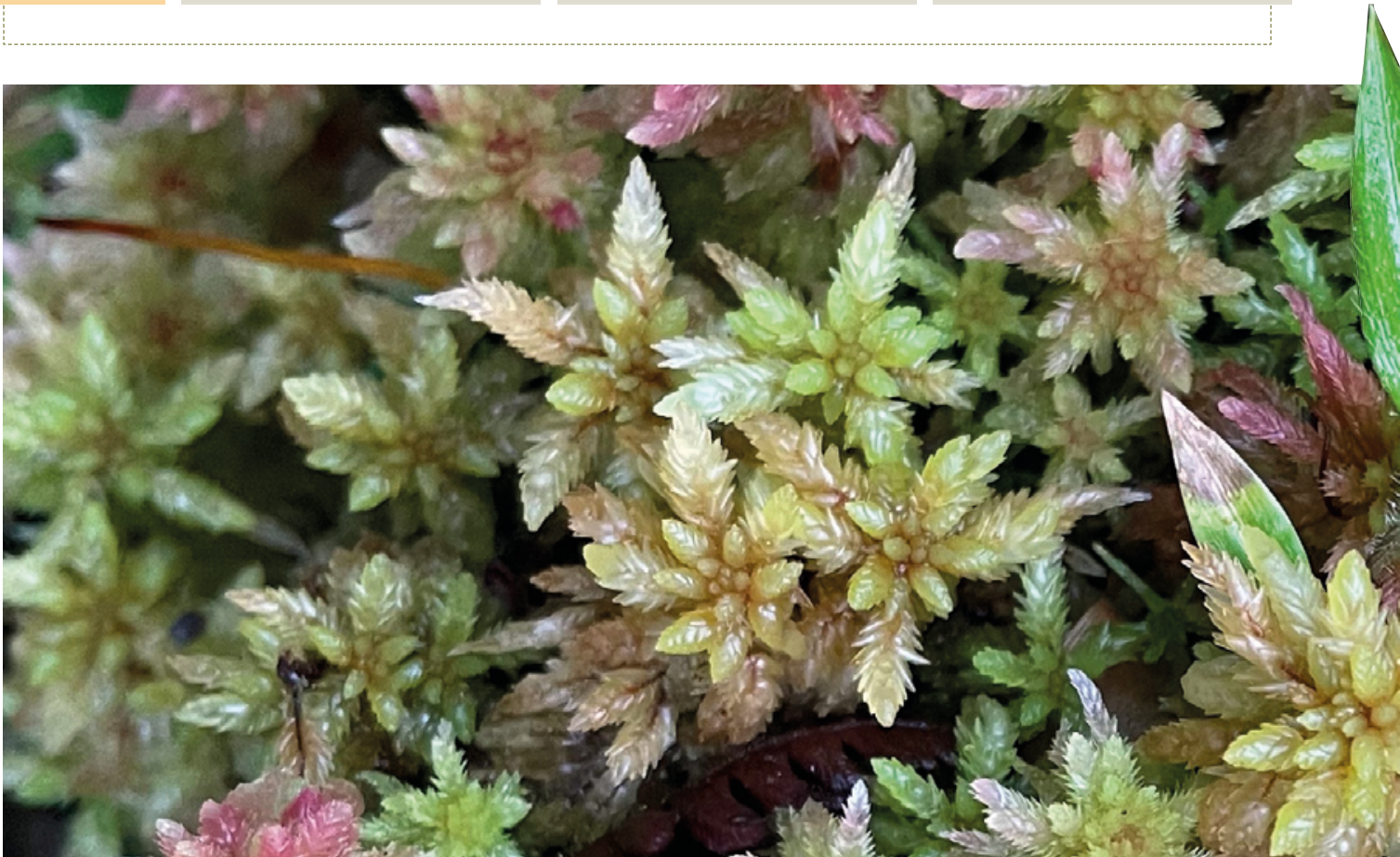
Stage 4
Structuring, Development, and Application of the Guide

Consolidate the work done during stages 2 and 3 into a practical guide that promotes autonomy in habitat management, using interactive tools and their application in a specific territory and community.

Specific objectives:

- Enhance and revitalize symbols and landmarks through the reading and understanding of the landscape as a collective asset.

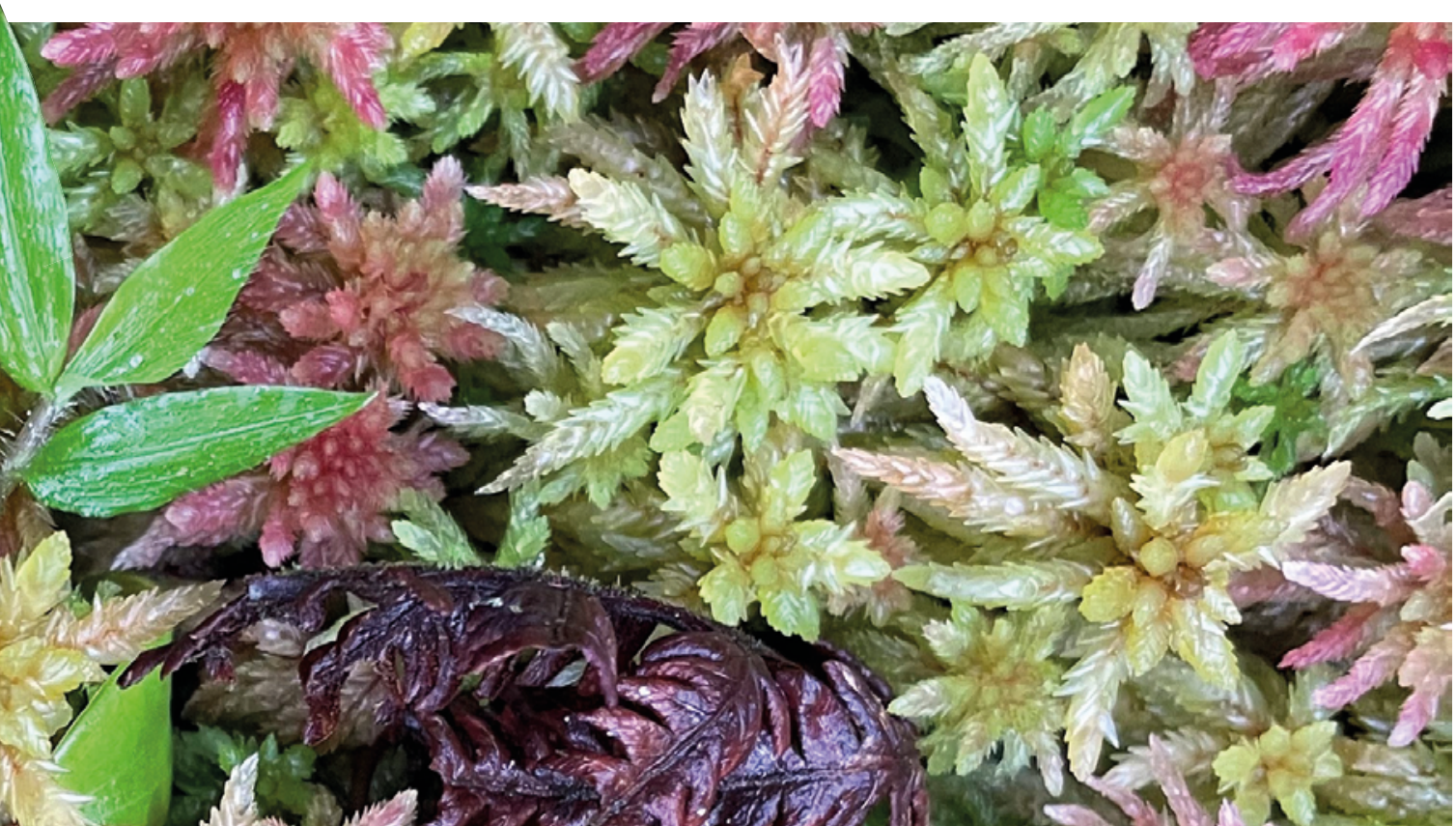
	Activities		
At the office	Creation and consolidation of practical tools.		
Field Visit 3	Application of practical tool modules.	**Feedback and validation** from the community regarding the proposed topics for the guide.	Consolidation of the process and project development with the community.

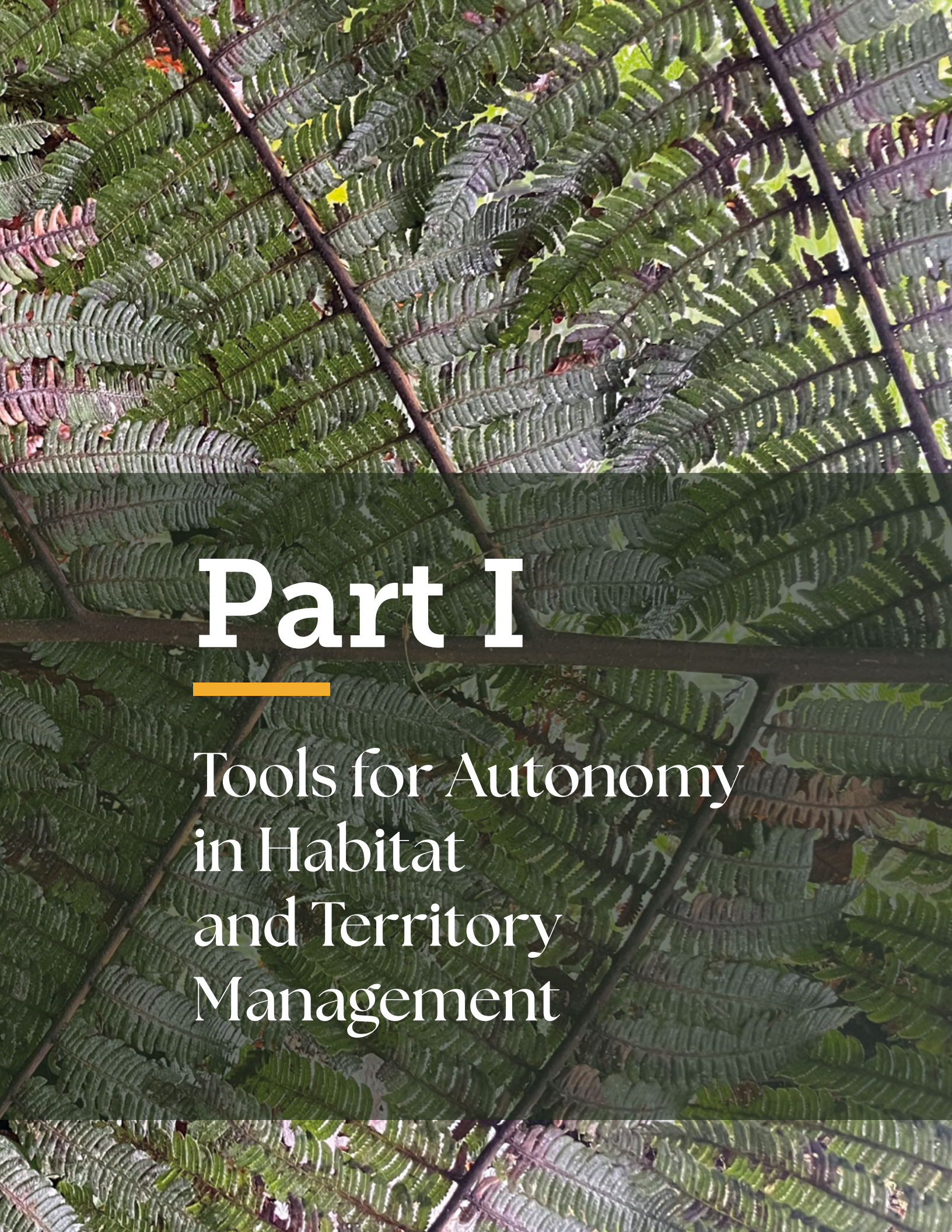


Stage 5
Diffusion and Feedback

Receive feedback regarding the relevance and content of the guide and promote its application in different territories, communities, and organizations driving similar projects.

	Activities		
At the office	Virtual meeting for presentation and feedback on the Guide with the community.	Virtual meeting for presentation and feedback on the Guide with GRRIPP.	Diffusion of the Guide.





Part I

Tools for Autonomy in Habitat and Territory Management

Part I

This Guide proposes practical tools, activities, and recommendations that support autonomous territorial development and management plans. Its scope and application will be defined by the communities that use it. However, it guides the following aspects:

1. Establishing a foundation for recognizing assets in the territory and the community.

2. Proposing a prioritization plan for future infrastructure or interventions to be developed.

3. Guiding on how to create appropriate and relevant architectural designs for small-scale infrastructure.

4. Directing towards preparing for the implementation of small-scale infrastructure projects.

a. Methodology

This methodology includes tools, activities, recommendations, and guide documents designed for autonomous and customized applications, adaptable to different contexts or territories and their respective specificities. The theoretical-practical dynamic is easily documented and allows for tangible results. It is expected that the process, results, and application of the guide will be unique and specific. It is important to clarify that the guide is presented merely as a proposed process to achieve the desired results. It is not a limitation or a fixed route and can be complemented with different activities and methodologies.

1

This methodology is divided into four **modules**, which are further divided into **training components.**

2

Each module and training component complements and enables the completion of the subsequent modules and components.

3

Each component has a **specific objective,** an expected **technical outcome** (tangible), and an expected **social outcome** (intangible).

4

The methodology provides guidance on **how** to achieve these objectives and results, along with one or more **activities** to accomplish them.

5

For each activity, there is a list of materials, a step-by-step guide for its **implementation,** and additional **content** if necessary to guide or supplement the activity.

6

Attention is drawn through **notes** or **recommendations** to facilitate the planning and execution of the activities.

b. Modules and Training Components

Module 1:
Recognition: Ecosystem, Built Environment, and Population

Objectives

Understanding the Ecosystem, Built Environment, and Population is crucial to identify and comprehend the various available resources and utilize them effectively in the process of territorial and habitat.

Training Components

- Identification, classification, and assessment of existing and future infrastructure.
- Identification of capabilities and potentialities within the community.
- Identification of materials for crafting and infrastructure construction.

Module 2:
Planning

Objectives

Create an action plan that includes infrastructure interventions to be carried out within the project framework.

Training Components

- Infrastructure prioritization.
- Consolidation of the action plan.

Module 3:
Design

Objectives

Create a relevant and context-appropriate architectural design, validated and agreed upon by the participating members.

Training Components

- Analysis of vernacular architecture: typologies, techniques, and materials.
- Interpretation of blueprints.
- Architectural design.
- Definition of materials.

Module 4:
Preparation and Execution of Construction Works

Objectives

Prepare for the stages related to the construction of the project.

Training Components

- Budgeting.
- Construction schedule.
- Purchases and contracts.
- Construction and project monitoring.

Recommendations!

- *Involve a diverse group of participants in the process to bring different experiences and perspectives to the conversation. This can include women and men, youth, elderly, children, expert builders, experts from other fields, etc.*
- *Identify and recognize the specific areas and stages of the project where each participant can contribute and engage, respecting and acknowledging their capabilities and potentialities.*
- *Before starting, it is advisable to create an attendance list and assign each participant a registration number that can be used in subsequent activities, instead of using their names. This facilitates the systematization of responses and ensures the anonymity of participants.*

Module 1

Recognition: Ecosystem, Built Environment, and Population

Taking into account these three pillars is crucial to enable interventions that respond to the unique characteristics of a place.

→ Identification, classification, and assessment of existing and future infrastructure.

Objective	To recognize what currently exists and what is desired to be developed in the territory in order to create an action plan and infrastructure management.
Expected technical outcomes	A **map** of the territory and/or project routes with **georeferenced points** indicating the current and/or future locations of the infrastructures.

Activity 1: Walking circuit to identify infrastructures

The execution of walking circuits allows for the identification, classification, and assessment of existing and future infrastructures.

Materials:

- Maps or blueprints of the territory.
- Paper, pencil, and supporting tables for taking notes during the tours.
- Georeferencing tools such as GPS or a smartphone (if available).

Activity Development:

a. Hacer recorridos por:

- The areas where intervention is planned.
- The planned trails or routes that complement the specific activity.
- The surrounding areas that the community considers relevant to the project.
- Other spaces/locations where participants engage in important daily activities.

Recommendations!

→ *When the territory is extensive or difficult to access, it is recommended to use tools to understand it without the need for physical tours, such as physical or digital plans, maps, cartography, models, etc.*

b. Consolidate the list of identified existing and future infrastructures throughout the tour. Simultaneously, place and georeference them on a map using the chosen technological tool.

c. Discuss and comment on the state of the infrastructures along the tour, their uses, and their value according to the perspectives of different participants.

d. At the end of the tours, compile a list of existing and planned infrastructures, including photos of each one to facilitate their subsequent identification.

e. Reference and mark the points corresponding to each infrastructure on a territory map.

Recommendations!

→ *It is important to take photos of the identified infrastructures and make notes of any comments and opinions that arise during the tour.*

¡NOTA!

→ *Georeferencing can be done in different ways and with different tools, with GPS being a very useful one. A smartphone with access to applications like Maps or Google Maps can also be used to mark the points identified during the tours.*

Activity 2: Group discussion for the classification of infrastructures

The classification of the identified infrastructures allows us to understand their magnitude and determine if they fall within the established scale of application in this guide.

Materials:

- List of identified infrastructures.
- Classification tables for infrastructures (see resources).

Activity Development:

a. As a group, review the identified infrastructures. Classify the infrastructures considering the suggested tables or as agreed upon by the group.

b. Assess the infrastructures that, based on their size and use, could still be considered for the implementation process of the guide.

Resources:

- Classification tables for infrastructures based on size and use.

By size:

Medium-scale infrastructure	Small-scale infrastructure	Provision
Visitor Reception/Office	Rest area	Fire control
Manufacturing, exhibition, and sale of products or crafts	Forrest classroom	Wifi connection point
Accommodations	Nursery	Traditional and non-traditional furniture
Conventional, traditional, or mixed kitchen	Bathrooms	Signage
Restaurant	Laundry room	Waste management
Viewpoint/ Wildlife and Flora observation station	Hand and boot washing station	Water supply system/rainwater harvesting system
Environmental Classroom/ Museum Classroom	Camping	Lightning
Hydration station	Plant nursery/vegetable garden	
Astronomical Observatory	Natural pools/ thermal pools	
Wildlife and Flora Laboratory	Natural hydration areas	
Road infrastructure/vehicle parking	Built paths, bridges, and staircases	
Monitoring and control center	Cycling trails/bike parking	
Septic systems/ sedimentation tank systems	Enclosures, access, gates	
Gabions, slopes, and ground stabilization		
Warehouse/storage room		

¡NOTA!

→ *The types of infrastructure may vary according to the particularities of each territory and project needs.*

By use:

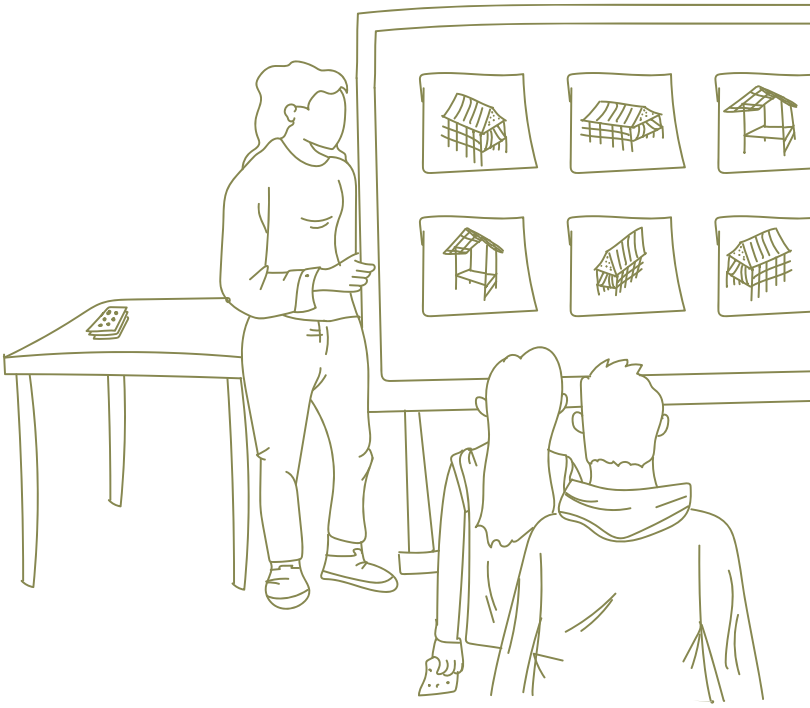
Operational	Recreational	Tourist services
Office	Viewpoint	Visitor Reception
Monitoring and control center	Wildlife and Flora observation station	Accommodations
Plant nursery/vegetable garden	Estación de hidratación natural o construida	Camping
Warehouse/storage room	Rest area	Restaurant
Nursery	Built paths	Manufacturing, exhibition, and sale of products or crafts
Laundry room	Cycling trails	Bathrooms
Manufacturing, exhibition, and sale of products or crafts	Staircases	Conference center
Hand and boot washing station	Bridges	
Fire control		

Complementary	Educational	Facilities and Services
Enclosures, access, gates	Astronomical Observatory	Conventional or alternative energy supply
Road infrastructure	Wildlife and Flora Laboratory	Water supply system
Vehicle parking	Forrest classroom	Septic systems/ sedimentation tank systems
Bike parking	Museum Classroom	Rainwater harvesting system
Wifi connection point	Environmental Classroom	Waste management
Traditional and non-traditional furniture		Wifi connection point
Signage		

Source: Own elaboration based on (AGRA Arquitectos, 2021)

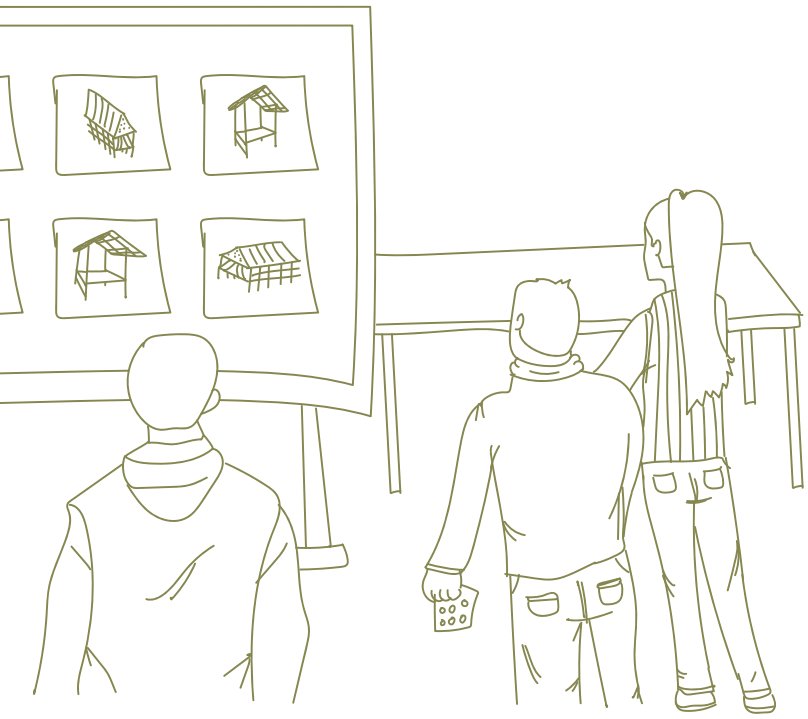
Activity 3: Group Discussion for Infrastructure Assessment

The training module concludes with this activity designed to assess the infrastructures based on the type of intervention to be carried out, the construction stage they are in, and their condition.



Materials:

- Assessment tables for infrastructures (see resources).
- Printed photos of each identified infrastructure.
- Colored stickers for each analysis category.



Activity Development:

a. Paste, hang, or arrange the images of each infrastructure in the workspace. They should be visible to all participants.

b. Take a tour of the displayed images and engage in a group discussion about the assessment to be assigned to each infrastructure. Subsequently, mark each photo with a sticker based on the agreed-upon assessment and the color convention for the corresponding category.

c. Repeat step 2 if you wish to assess the infrastructures using more than one category.

Recommendations!

→ *When conducting assessments considering multiple analysis categories, it is advisable to use adhesive stickers or markers of different colors to avoid confusion between the assessments for each category.*

→ *It is recommended to add the previously defined classification to the photos of the infrastructures. This way, all the information related to the identification, classification, and assessment of the infrastructures will be displayed in one place.*

Resources:

- Assessment based on the **type of intervention to be carried out:**

Type of intervention to be performed	Convention based on colors
No need for intervention	
Improvement	
Reconstruction	
New construction	

- Assessment according to the **Construction Stage:**

Construction stage	Convention based on colors
Completed	
In progress	
Unbuilt	

- Assessment according to the **condition:**

Condition	Convention based on numerical value
Good (no need for intervention or improvement)	0
Regular (it is functioning but could be improved)	1
Malo (it urgently needs improvement or intervention)	2

Example:

An infrastructure can be completed  , and, also be in good condition (0), which means it doesn't need an intervention  .

Or, an infrastructure can be completed  , and also be in regular condition (1), which means that the infrastructure is likely functioning, but, an improvement intervention is recommended  .

¡NOTA!

The assessments can be as extensive and detailed as the group desires. However, if there is limited time, it is recommended to focus the assessment on the "type of intervention to be carried out" category, as it provides the necessary foundation to proceed with the next module.

Identification of capacities and potentialities within the community

Objective	Recognizing the capacities and potentialities within the community that allow for the construction of an action and management plan.
Expected technical outcomes	A table with the capacities and potentialities of project participants

The activities proposed for this training component aim to, on one hand, identify capacities and potentialities, as seen in ***Activity 1: "Knowledge and Skills",*** and on the other hand, create spaces for reflection on topics related to intersectionality, gender roles, among others that are considered important. See ***Activity 2: "Gender Roles Panel Discussion".***

Activity 1: Knowledge and Skills

The objective of this exercise is to identify the capacities, potentialities, and interests of the participants through the activity **"Knowledge and Skills,"** which is part of the Collective Knowledge© methodology © .

Recording the results of this activity will serve to:

- Identify the main vocations of the community and guide initiatives and working groups.
- Understand the needs and interests for strengthening (training and capacity-building) in various trades and skills.
- Identify community members who have knowledge and interest in construction-related topics.

Materials:

- A list of occupations in the following categories: Construction, Tourism, Production (for the specific project), Culture, and other topics considered relevant to the community. It is crucial to have a printed photograph representing each of these occupations.
- Four-color adhesive labels, enough to provide 10-15 to each participant (the quantity may increase or decrease depending on the number of selected topics).

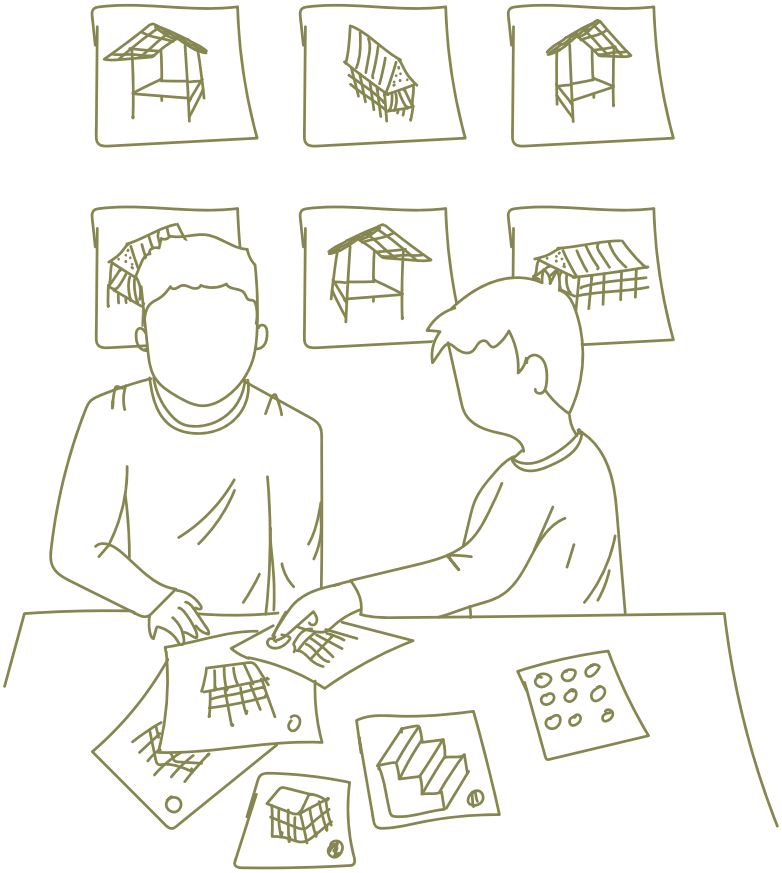
Activity Development:

a. Paste, hang, or arrange representative images of each occupation in the workspace, making them visible to all participants.

b. Distribute between 10-15 adhesive labels of two different colors to each participant: one color for knowledge and another for interests. Each group of labels should be marked with the registration number of each participant (it can be the number assigned to each person when filling out the attendance list).

c. Paste the adhesive labels on the occupation images: the ones corresponding to knowledge on the occupations they know how to do, and the ones corresponding to interests on the occupations they would like to learn.

d. Systematize the results in a table to draw conclusions about the knowledge and interests of the community.



¡NOTA!

→ *If the intention is to obtain differentiated results by gender, two different sets of adhesive labels can be used for males and females. This way, each gender will have two representative colors to identify knowledge and interests, and preferences can be easily seen.*

Activity 2: Gender Roles Panel Discussion

The objective of this activity is to understand the roles that women and men have in the daily life of the community and in the development of the tourism activity. It starts from the assumption that men and women assume differentiated roles, and it is crucial to understand the level of participation, specific needs, and access to spaces for each gender. This way, the activity allows for gender-disaggregated information (separately for men and women) to identify differences, inequalities, and potential points of action. Within each group, it is important to consider other factors such as age and ethnicity, which are crucial for understanding the experiences, perceptions, and lived realities of the participants.

Materials:

- Paper and pencils for taking notes.
- Voice recorder (if available).

Activity Development:

a. Separate the men and women of the group and arrange them in different spaces to have separate panel discussions with each group.

b. Moderate a conversation with each group using semi-structured questions based on the topics considered relevant to the context.

c. Systematize the responses and comments to obtain results and conclusions.

Resources:

Possible topics to address during the panel discussions:

- Gender inequalities: Explore the differences in the roles assumed by women and men within the community.
- Key transformations in gender roles throughout the history of the community and the development of the project.
- Participation of women and men in the project.
- Gender relations in the community and within the project.
- Proposals, future perspectives, and expected achievements for men and women from their respective viewpoints.

Identification of materials for infrastructure construction and handicraft production

Objective	Identifying the available and optimal materials for the construction of small infrastructure, amenities, and possibly crafts in the area.
Expected technical outcomes	List of available or easily accessible materials for the community

Activity: Material Identification

This exercise aims to recognize and identify the materials available in the area for infrastructure construction and crafting based on the participants' knowledge and experiences.

Materials:

- Kraft paper
- Markers
- Adhesives of three different colors

Activity Development:

a. Create a list/table on a large format paper where the materials available in the territory for infrastructure construction and crafting can be recorded.

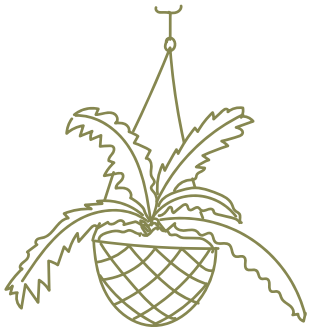
b. Collaborate with all participants to complete the list and engage in discussions about different categories until reaching agreements.

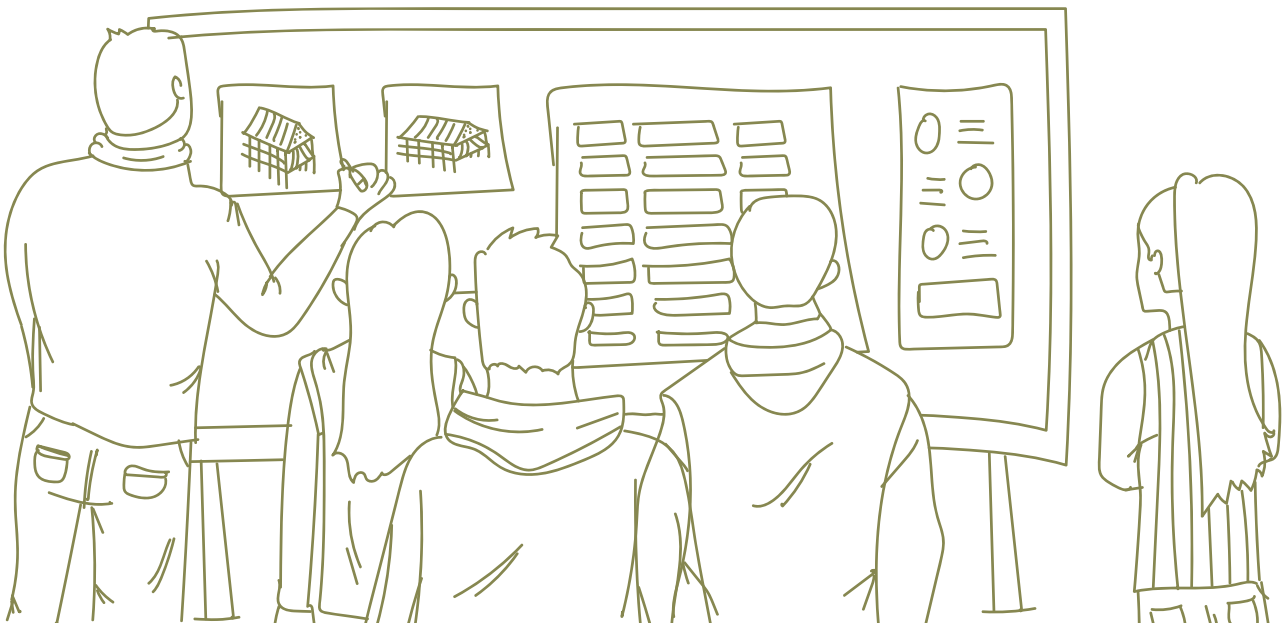
¡NOTA!

→ *Include in the list/table other categories of information that will be useful for future stages of the project, such as tree/plant names, use (construction or crafting), risk status, wood quality, among others.*

→ *The list can remain displayed and available for further completion during the workshop.*

→ *Different colored adhesives can be used following a convention created at the moment. For example, participants can decide to use red stickers to mark trees or plants at risk and yellow stickers for those that are not.*





Module 2

Planning

→ Prioritization of Infrastructures

Objective	Recognize and organize priorities regarding infrastructure interventions to be carried out.
Expected technical outcomes	A priority list that demonstrates the agreed-upon order by the participants.

Activity: Prioritization by Voting

In order to prioritize interventions, this voting and open discussion aims to identify the type of interventions to be carried out for each infrastructure and their level of urgency: high, medium, or low.

Materials:

- Printed photos of each identified infrastructure .
- Stickers of different colors for each prioritization category.

Recommendations!

→ *To have all the necessary information at hand, it is recommended to use the same previously marked photos from the activities in Module 1: Identification, Classification, and Evaluation of Existing and Future Infrastructures.*

Activity Development:

a. Attach, hang, or arrange the images of each infrastructure in the workspace. They should be visible to all participants.

b. Provide each participant with nine stickers of three colors. Each color corresponds directly to the levels of urgency: high, medium, and low.

c. Each participant should individually review the displayed images to recall the identified infrastructures.

d. Subsequently, each participant will vote (by sticking the stickers on the images) for nine infrastructures they believe require intervention (three with high urgency, three with medium urgency, and three with low urgency).

e. Repeat steps c) and d) if prioritizing infrastructures with more than one category of analysis is desired.

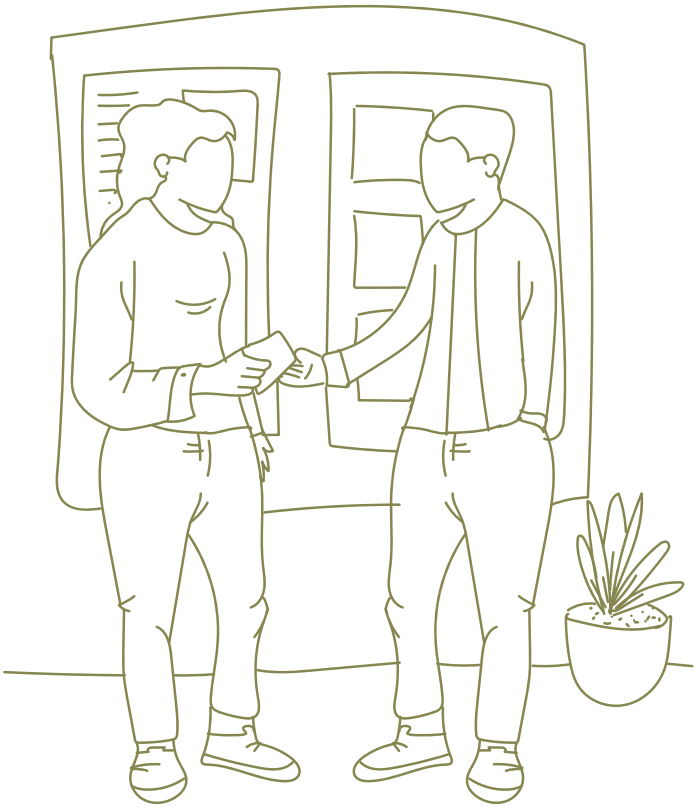
f. Once all participants have expressed their opinions, it will be possible to immediately identify those with the highest number of votes and proceed to discuss the obtained results.

g. Process and analyze the votes by assigning them a numerical value per category to obtain precise results on the prioritization order of the infrastructures. Resources: The numerical value assignment can be done considering the following:

¡NOTA!

→ *The resource section provides details on prioritization based on urgency level, need, complexity, and availability of resources.*

→ *It is important that the stickers used in this activity are of a different color than those used in the classification and evaluation of infrastructures. This way, it will be easy and clear to identify which convention belongs to which decision.*



Resources:

The assignment of the numerical value can be done taking into account the following:

- ***Simple*** prioritization - based on the analysis of urgency level: h***igh, medium, or low.***

Urgency	Convention based on colors	Numerical Value
High		0
Medium		1
Low		2

- ***Complex*** prioritization - based on the analysis of ***need, complexity, availability of resources, and approximate cost.***

This prioritization takes into account multiple categories of analysis and, although more complex, can result in a more comprehensive prioritization.

a. Need

- Which infrastructure/intervention is more urgent/needed for the project? For the community? For visitors/tourists?
- Which infrastructure/intervention could be more productive for the project?

Level of necesity	Numerical Value
Low	0
Medium	1
High	2

¡NOTA!

The prioritization process can be as extensive and detailed as the group desires. However, if time is limited, it is recommended to perform simple prioritization based on high, medium, or low urgency, as it provides the necessary foundation to proceed with the next module.

b. Complexity

- What type of intervention is it?
- Is it a new construction, improvement, or reconstruction of an existing infrastructure?
- How complex is the intervention to be carried out?
- Is it possible to execute the project completely autonomously, or is external intervention necessary?
- What is the approximate time required for the execution of the project?
- What potential setbacks or obstacles might arise?

c. Availability of resources

Economic

- For which infrastructures/interventions are predestined resources available?
- Which infrastructures/interventions require external funding?

Materials

- For which infrastructures/interventions are materials available?
- Which infrastructures/interventions require external materials?

Labor/Personnel

- Which infrastructures/interventions could be constructed autonomously?
- Which infrastructures/interventions require external labor?

Level of complexity	Numerical Value
High	0
Medium	1
Low	2

Availability of resources	Numerical Value
High	0
Medium	1
Low	2

d. Approximate cost

- How expensive will the project be?

Cost	Numerical Value
High	0
Medium	1
Low	2

Taking into account the assigned numerical values, infrastructures and interventions will have a resulting score from the voting. The higher the score, the higher the infrastructure will be ranked in the prioritization list. However, it is valid to discuss the order and modify it according to the participants' opinions.

→ Consolidation of the Action Plan

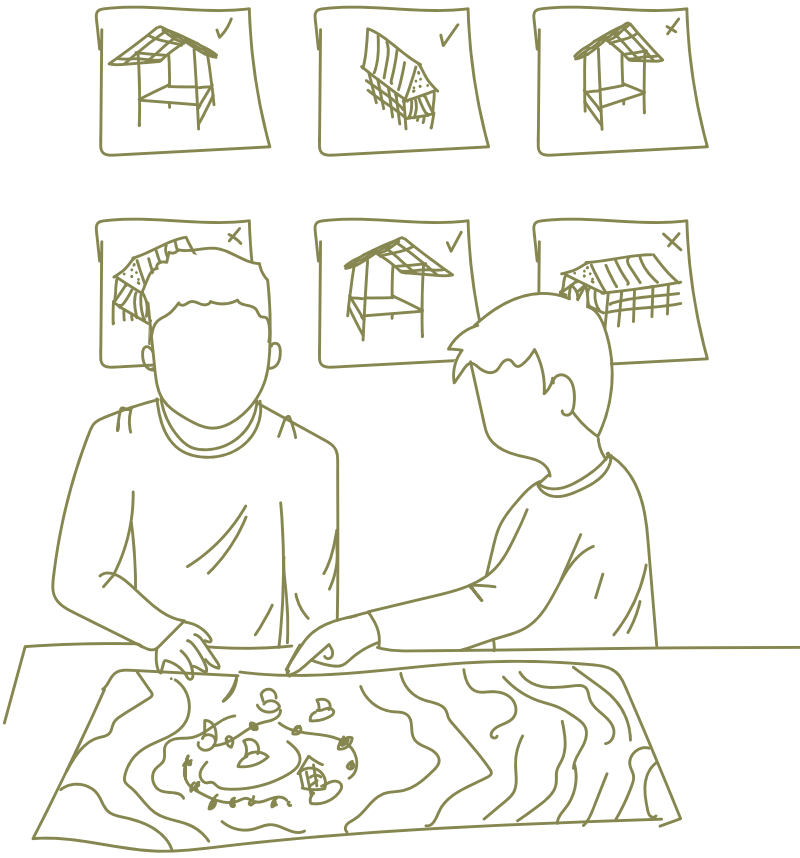
Objective	Evaluate the prioritization of infrastructures in space and time in order to coordinate the project's action plan.
Expected technical outcomes	Create a **map** where both existing and future infrastructures are located, and a **timeline** to shape a comprehensive action plan.

Activity: Map and Timeline

This activity aims to structure the roadmap or action plan for project interventions by aligning the prioritization of infrastructures in time and space.

Materials:

- Territory map or plan
- Kraft paper
- Markers



Activity Development:

a. Based on the prioritization order of interventions determined in the previous training component, the prioritized infrastructures should be located and marked on the territory map or plan. This will help understand where each intervention would take place and what might be more suitable based on its location.

b. Simultaneously, on the kraft paper, create a timeline estimating the timeframes for the implementation and construction of each intervention.

¡NOTA!

→ *The more detailed the action plan and timeline are, the better. You can include variables such as resource origin, roles and tasks to be fulfilled for the development of each intervention, and any other relevant information.*

Recommendations!

→ *If there is already a map used in the classification, evaluation, or prioritization of infrastructures, it can be used for this activity.*

Module 3

Design

→ nalysis of vernacular architecture: typologies, techniques and materials

Objective	Analysis of Vernacular Architecture: Typologies, Techniques, and Materials Study traditional architecture, techniques, and materials in order to design new infrastructures that adapt to the context.
Expected technical outcomes	**Models** or **drawings** of traditional architecture, identifying the components, techniques, and materials used.

Activity: Traditional House Models

This activity aims to understand traditional housing and infrastructure based on the participants' knowledge and experience.

Materials:

- Cardboard or strawboard
- Colored cardstock and papers
- Recycled materials
- Balsa wood sticks and palette
- String
- Tape and glue
- Scissors and scalpels

Activity Development:

a. Divide participants into small groups to encourage collaboration and participation in creating the model.

b. Distribute and present the available materials for each group to start building a model of a traditional house or infrastructure specific to the context.

c. Specify the available time for developing the models and emphasize identifying the parts of the house or infrastructure, considering typologies, techniques, materials, and other important elements.

d. Once the models are completed, have one or more representatives from each group present their work to the rest of the participants.

¡NOTA!

→ *It is not necessary to purchase materials for the models; recycled materials or locally available resources can be used. If it is challenging to carry out the activity, it can be replaced with drawings or other types of graphic representation.*

→ *It is important to write down the identified parts of the infrastructure on the model for later detailed documentation.*

Architectural Representation and Floor Plans

Objective	Enhance the skills of all participants in reading, creating, and analyzing architectural floor plans.
Expected technical outcomes	Architectural **plans** and/or **drawings** of an existing infrastructure in the territory.

Activity: Introduction to Reading and Creating Floor Plans

This activity aims to provide participants with the basic tools to read and create an architectural floor plan or drawing. It consists of two parts: theoretical and practical.

Materiales:

- 2-meter measuring tapes for each group
- 1-decimeter measuring tape for each group (if necessary)
- Blank white paper
- Graph paper
- Pencils
- Set squares

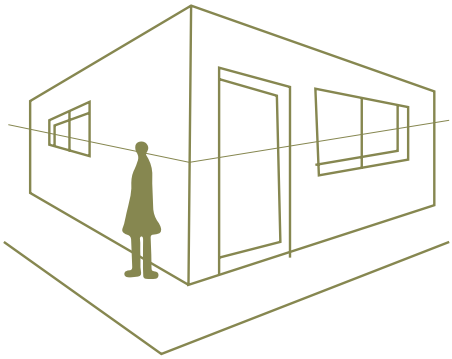
Activity Development (Theoretical Part):

a. Explain to participants the different types of architectural visualizations (floor plan, section, elevation, three dimensions). These can correspond to a simple infrastructure and be drawn on a board/paper or provided as printed materials.

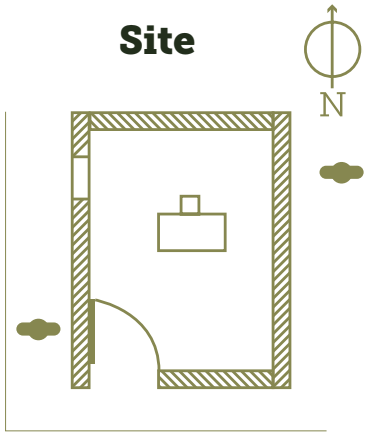
b. Explain the elements that compose an architectural floor plan, for example:

- Title block (with the name of the infrastructure, version of the plan, and date)
- North arrow
- Scale

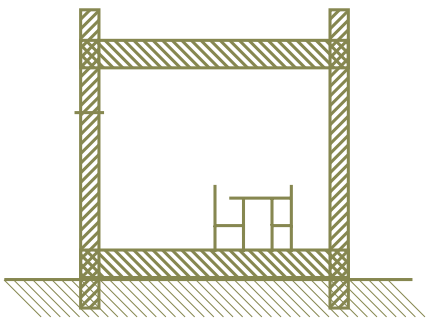
3D



Site



Court



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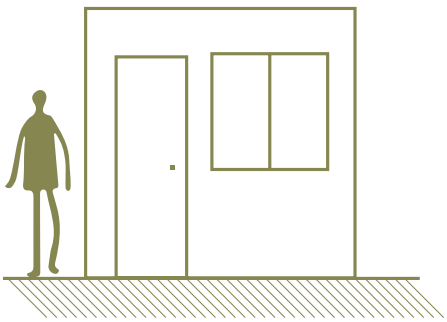


Activity Development (Practical Part):

c. Divide the group into smaller groups so that everyone can participate in measuring and creating the floor plan.

d. Select an existing infrastructure in the location to measure and draw to scale, either the floor plan, section, or elevation.

e. Distribute the necessary tools to each group for measuring the infrastructure, including measuring tapes, graph paper, and drawing boards. The measurements should be recorded and drawn on the provided white paper.

f. Once the group is satisfied with the collected measurements, they can proceed to draw the floor plan of the infrastructure on the graph paper, using a set of set squares. If the group realizes that they are missing any measurements, they can return to measure the infrastructure as many times as needed.

g. Once the floor plan is completed, each group should add the title block with the plan's name, date of creation, scale, and authors.

Recommendations!

- *It is recommended to choose a small and as simple as possible infrastructure for the exercise.*
- *It is recommended to have professionals or technicians accompany the measurement processes of each group, assisting and advising when necessary.*
- *Drawing the infrastructure at a scale of 1:10 can facilitate the creation of the floor plan. It is also important to closely supervise this step.*
- *It is advisable to have the support of an architect or a team of architects who can work with the community in developing the design.*

→ Architectural design

Objective	Propose an architectural design that is suitable for the location and the project. Models, floor plans, and/or architectural drawings of the design.
Expected technical outcomes	**Models, floor plans,** and/or **architectural** drawings of the design.

The Architectural Design training module consists of three parts: the first one focusing on **preliminary design** ideas, where participants can present their ideas and intentions regarding the infrastructure to be designed; the second part opens spaces for the analysis and consolidation of the design proposals for the infrastructures based on certain **parameters**, and the third part proposes the Finel **validation** based on the previous work. All of the above is done through collaborative work between architects and the community.

Activity 1: "The Space We Dream of"

This activity aims to have participants propose and record their ideas, dreams, and expectations regarding the new infrastructure, so that the architect or team of architects they are working with can have a starting point for the development of architectural designs for the infrastructure.

Materiales:

- Colored cardstock and/or papers
- Markers
- Pencils and/or pens

Activity Development:

a. Divide the group into smaller work teams so that everyone can participate in the activity.

b. Ask participants what ideas, dreams, and expectations they have about and for the new infrastructure. How do they imagine the new infrastructure? What spaces should it have? How could those spaces be?

c. On the colored cardstock and/or papers, have them draw and write how they imagine the infrastructure, insisting on being as detailed as possible, including ideas or expectations about:

- Materials
- Spaces (and program)
- Typologies

d. Once the drawings are finished, a representative from each group will come forward to present their ideas, discuss them, and openly complement them with the group.

The Finel process and discussion can be guided based on the design parameters presented below:

→ Design Parameters:

For the optimal architectural ***design*** of each infrastructure in the project, certain parameters should be taken into account so that the interventions are affordable, comfortable, and appropriate for the planned activities, and in line with the specific context and local culture.

It is important to address the following questions related to the following aspects:

a. Site

Refers to the location of the infrastructure. To define it, the following questions can be answered:

- Where would it be appropriate to locate it?

  Examples: Near other infrastructures? Near a road, a trail? Near a river? With the possibility of energy or drinking water supply services? On flat terrain? With a view? Sheltered from the wind?

- Is there any probability of risk to the infrastructure or its users in the proposed location?

  Examples: Due to landslides or collapses, flood-prone, unstable, swampy, or clayey soils, or close to runoff and winter floods.

- How does the infrastructure relate to the surrounding environment?

  Examples: Is a distant landscape view important? Is a forest view from certain windows desirable? Is it suitable for bird, mammal, and plant watching? Can you hear the nearby river?

b. Orientation and Bioclimatic Factors

Considering orientation with respect to the ***sun and bioclimatic*** factors when designing architecture means taking into account the environmental conditions that ensure comfort for the users of the infrastructure.

- Is the infrastructure properly oriented with respect to the sun and winds?

  Examples: Does it receive natural light? Should it be insulated from the sun or strong winds? On the contrary, is the sun beneficial for controlling cold temperatures? Is the breeze helpful for controlling heat?

- What climatic factors could affect habitability within the infrastructure?

  Examples: Do surrounding trees block natural light and make it too dark? Conversely, do tree shadows provide protection? Is orientation towards the breeze suitable for cooling the spaces? Are there strong wind currents that affect constructions and the well-being of users? Is it an excessively rainy and humid area that requires elevating the structures?

- Does the selected location for the infrastructure offer the possibility of connection to energy or drinking water networks?

  Examples: Is the water supply source nearby? Is it of good quality, or does it need to be treated? Is there a way to dispose of wastewater? Is a plant required for the treatment of black and gray water? Does the existing energy network supply the infrastructure? If there is no network, is there enough sunlight to power solar panels? How far is the internet provider, if needed?

c. Typology, Technique, and Materials

Considering the ***typology, technique,*** and ***materials*** of an infrastructure also means thinking about the culture, ancestors, and construction traditions, as well as the result and how it will be built.

It also involves considering construction safety, durability, and the possibilities of maintenance with local labor, preferably from the same community.

- *How do we want the architecture of the infrastructure to reflect our own culture?*

- *Is it appropriate for the visitors' expectations in terms of reflecting and respecting heritage and local values?*

- *What local techniques will be used for construction?*

- *What materials will be used for its construction? Are they available on-site? If not, is it possible to transport them? Do they adapt to the climate? Are they suitable for the type of project expected to be realized?*

d. Spatiality

Spatiality refers to the size and quality of the space according to its function.

- Does the designed infrastructure fulfill the intended purpose? Is it useful? Is it aesthetically pleasing? Is it safe?

  Example: Is it a spacious, well-lit, and ventilated space to ensure visitor comfort? Does it adapt to the local culture? Does the design guarantee a solid construction with good finishes?

- Are the spaces in the infrastructure pleasant, comfortable, and functional?

  Example: Does it have sufficient natural light and adequate artificial lighting at night? Is the infrastructure protected from rain and pests? Does it have exterior views and good ventilation? Are the finishes functional (non-slip floors, storage elements, good carpentry, durable enclosures, and roofs)?

- How will this infrastructure be used?

  Example: Is there enough furniture for visitors to eat, rest, be well attended to, or receive training? Is the indoor environment pleasant?

- What is the optimal size for carrying out the planned activities in each infrastructure? Example: How many people will be using it simultaneously? What type of furniture is most suitable to install: fixed, movable, or flexible? Traditional or contemporary?

e. Materials

The choice of materials should take into account their availability in the nearby environment, the ***feasibility*** of extraction and ***transportation,*** their suitability as a response to climate, its variability, and impacts, and the possibility for local craftsmen to work with them.

Analyzing the traditional and contemporary materials existing in the area is a useful tool for evaluating the relevance and application of certain materials in the infrastructures. Local availability and supply imply lower

transportation costs and economic benefits for regional suppliers.

- **Consistency with the Environment**
  Choosing materials that are in line with the local context and its ecosystemic conditions.

- **Sustainability**
  Opting for durable materials obtained sustainably, ensuring continuous extraction without irreversible impacts on production and the environment.

- **Maintenance and Durability**
  Choosing high-quality, long-lasting materials that are easy to maintain with minimal renovation or replacement.

- **Cost and Quality**
  Selecting materials that are affordable, cost-effective, and of optimal quality.

Recommendations!

→ *When making decisions about materials, it is recommended to rely on previous successful experiences with the use of materials in other infrastructures, traditional knowledge, and recommendations from specialized experts.*

→ *For the use of wood, it is suggested to use certified reforestation wood that has been properly treated and immunized (vacuum-pressure treatment).*

¡NOTA!

→ *Depending on the complexity and specific needs of the project, during the design stage, it may be necessary to carry out additional technical studies (soil study, hydro-sanitary installations study, electrical installations study, network and data installations study, bioclimatic studies, among others). These studies should be conducted by competent professionals.*

Activity 2: Validation of Architectural Designs

Once the architectural design has been completed by the architect or team of architects, it is necessary for all stakeholders to be familiar with the design and discuss it in order to validate, change, adapt, and Finelly reach consensus on the proposals according to the needs, desires, and experience of community members.

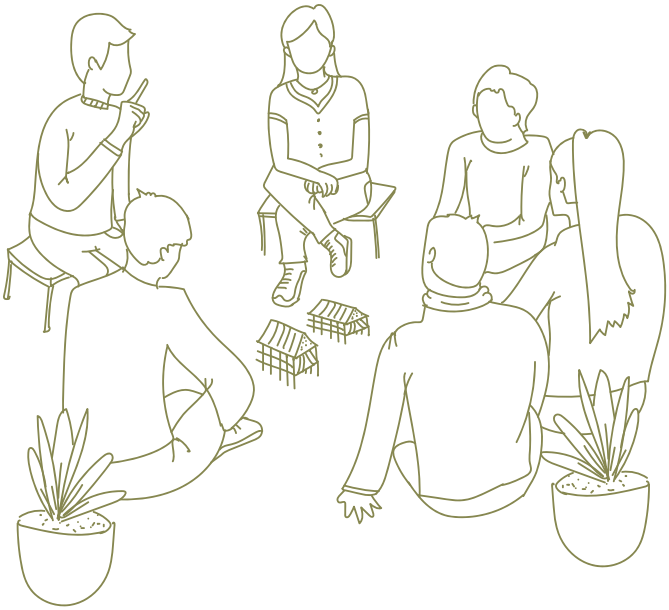
Materials:

- Didactic, disassemblable, and interchangeable parts models of the proposed infrastructure(s)

¡NOTAS!

→ *If it is not possible to have models of the designed infrastructures, the activity can be carried out with simple and illustrative plans or drawings of the infrastructure design.*

→ *The success of the activity lies in exchanging knowledge and discussing the proposed infrastructure. Three-dimensional (3D) images are very useful for this purpose.*



Activity Development:

a. Sit with the group in a roundtable format so that the models, drawings, or 3D images are visible and accessible to all participants.

b. Review the parts of the models with the participants.

c. Begin constructing one of the models with the help of volunteer participants and go through the step-by-step construction process.

d. Once the model is assembled, discuss the agreed-upon design based on the ***design parameters***, aiming to reach a consensus and Finel design.

e. Make Finel adjustments to the architectural design, model, and/or plans and drawings.

Module 4

Preparation and Execution of Construction

→ Budgeting

Objective	Study and approximate the total cost of the construction project.
Expected technical outcomes	Price **table** or **list** with itemized costs and the Finel cost of the project.

Activity: Budgeting

The objective of this session is for participants to understand the essential components and elements to consider when preparing or analyzing a budget. It is ideal to apply what has been learned in a practical and dynamic activity, using a simple infrastructure as an example and creating a budget for it as an exercise.

¡NOTAS!

→ *The estimate should be as detailed and itemized as possible, since it seeks to give a very close approximation of the cost of the work.*

Resources:

The **budget** is a crucial study that allows for an estimation of the total cost of a construction project. It should take into account all the costs that make up the project and may affect it. It is composed of the following parts:

a. Indirect costs

Elements, tasks, or services that enable the realization of the project without being directly part of its materialization. It includes:

- Designs, preliminary studies, and budgeting.
- Public utilities such as electricity, water, and gas.
- Specific consultations and external contractors (e.g., hydro-sanitary and electrical).
- Insurance policies and taxes.

b. Direct costs:

elements, tasks, services, or materials that are directly linked to the construction of the project. It includes:

- Materials, tools, and machinery.
- Labor, project administration, storekeepers, other construction personnel, and security.
- Transportation of materials to the construction site, unloading, and internal transfers.
- Cleaning during and at the end of the construction.

Example

Category	Item	Units	Quantity	Unit Price	Total price
Materials	Ceramic	UN (units)	50	10,000 COP	500,000 COP
	Paint	L (liters)	20	15,000 COP	300,000 COP
Machinery	Cement mixer rental	Hours	10	20,000 COP	200,000 COP
Labor	Construction assistants	Days	40	40,000 COP	1,600,000 COP

¡NOTAS!

- *The budget should be as detailed and **itemized** as possible, aiming to provide a very close approximation of the project cost.*
- *The budget should specify all items, i.e., each necessary element for the completion of the project within its specific category.*
- *For each item, units, quantities, unit prices, and total prices should be specified.*

c. Unforeseen expenses

Costs, materials, or activities that were not initially planned. By including them in the initial budget, it ensures that the work does not stop due to lack of resources.

- **Example:** An unforeseen expense could be the cost of paying the contractor or workers for hours in which they couldn't work (downtime) due to factors such as rain or bad weather, or the cost of multiple material deliveries because the road, in poor condition, does not allow large trucks to transport them.

d. Waste on the construction site

Materials or resources that are damaged and need to be replaced, or are misused, resulting in more waste than usual.

- Example: Bags of cement that were damaged due to poor storage and need to be replaced, or ceramics that were broken due to improper transportation or stacking.

e. Labor

Refers to the worker or team of workers responsible for the construction work. It can be local or external labor, hired, including the foreman, assistants, and other specialists.

Recommendations!

- *For rural projects, it is recommended to add between 10% and 12% of the total cost of the work as a contingency fund for unforeseen expenses.*
- *It is recommended to add between 5% and 10% of the total cost of the work as a contingency fund to cover possible waste on the construction site.*
- *It is recommended to be very careful with contracts, requirements, and exemptions made with external contractors, refer to the **purchasing and contracts.***

Project			
Date		Budget	

Construction budget

No.	Item	Description	Unit	Quantity	Unit price	Total value
1						
2						
3						
4						
5						
6						
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24						
25						
					Total	

Quotations:

To quote means to inquire about the cost of a product or service from a specific supplier. To create a budget, it is necessary to obtain **quotations** as they will provide an idea of the cost of materials, labor, and other services such as equipment rental or transportation.

1. When requesting **material** quotations, it is necessary to specify the required material and/or service, the quantity needed, and whether the price includes transportation and/or installation.

   Example:
   - How many bricks do I need for the construction?
   - What is the cost of each brick?
   - Does the total price include transportation to the site? How much would it cost to add transportation?

2. When requesting **labor** quotations, it is necessary to establish the tasks included in the work and, based on their complexity, whether an experienced foreman (contracted) should perform them, how many assistants are required for support, the scope of the service, and the time needed to complete the work.

   Example:
   - What is the cost of labor for the construction of the infrastructure?
   - Does it include insurance and salaries for the employees?
   - Is the cost per day or until the completion of the work?

3. When requesting **service** quotations, it is important to have a clear understanding of the scope of the service and what it includes.

   Example:
   - What is the cost of renting a concrete mixer or a compactor?
   - Does it include transportation from the depot to the site?
   - For how many days is it needed?

4. It is recommended to obtain at least three quotations for each product or service, so that prices can be compared and the best option can be chosen.

Services can be charged based on a **unit price or a lump sum.**

Unit price: The charge is based on each activity to be performed, and a fixed price is established for each activity. If the quantity of the activity increases, the total cost changes, but the price per activity remains fixed.

Example: The installation of one bench was budgeted, but it is decided to install two.

Lump sum: A fixed price is established for the entire work or task, including all the activities involved, materials, and labor. Even if the quantities or costs of materials, labor, or unforeseen expenses increase, the total price remains fixed.

Example: The construction of a pathway was contracted, but the price of cement increased during the execution. The contractor must bear that unforeseen cost, unless the difference in value is significant and affects the completion of the work, in which case it can be reviewed.

→ Construction schedule

Objective	Establishing the construction timeline.
Expected technical outcomes	**Timeline** or **schedule** with the construction stages and estimated total time for each stage.

Activity 1: Construction Schedule

The objective of this session is for participants to understand the elements that make up a construction schedule. It is ideal for the knowledge gained to be applied in a practical and dynamic activity, using a simple infrastructure as an example and creating a schedule as an exercise.

Resources:

The **construction schedule** outlines the stages in the construction process and the expected time for each stage, in months, weeks, or days.

It allows for planning and organizing the construction by determining the duration of each activity, identifying which activities can be carried out simultaneously, and determining the sequence of activities.

It also helps in organizing labor, material supply, and payment milestones for workers. Example: Schedule for a small-scale infrastructure project.

¡NOTAS!

→ *This is an example of a schedule with stages and activities that may not be applicable to all projects. The schedule and its activities should be modified based on the specific needs of the project.*

Recommendations!

- *It is recommended to be as detailed as possible with the activities in the construction schedule. This helps prevent unforeseen issues and allows for effective monitoring.*

- *It is recommended to review the construction **schedule template** provided in this Guide to facilitate its creation and organization.*

Project

Cronstruction Schedule | **Date**

Stage	Activity	Month 1				Month 2				
		1	2	3	4	1	2	3	4	1
01 Preliminaries	PRELIMINARIES									
	Design and Material Definition									
	Quotation and Budget									
02 Purchases and contracts	PURCHASES AND CONTRACTS									
	Material Purchase / Acquisition									
	Material Transportation									
	Hiring of Construction Staff									
03 Construction	CONSTRUCTION									
	Site Enclosure									
	Site Location and Layout									
	Excavations and Backfilling									
	Concrete Structure									
	Wooden Structure									
	Roofs and Ceilings									
	Floors and Walls									

Start Date		Completion Date	

Month 3				Month 4				Month 5			
2	3	4	1	2	3	4	1	2	3	4

→ Purchases and Contracts

Objective

Take stock of the essential elements to consider when making purchases and contracting services.

Activity 2:
Purchases and Contracts

The objective of this activity, divided into two parts, is for participants to understand the elements to consider when **purchasing materials and contracting services** for a project. It is ideal for the knowledge gained to be applied in a practical and dynamic activity, simulating potential purchases and necessary contracts, using a simple infrastructure as an example.

Resourses:

1. **Material Purchases:** The purchase of materials, raw materials, or supplies comes after defining the materials during the Design stage (Module 3), obtaining necessary quotations, and preparing the budget.

   It is recommended to consider the following aspects before Finelizing a purchase:

- **Transportation:** Consider the cost and feasibility of transporting the materials to the site. This helps reduce additional costs and unforeseen issues.

  Example: Is transportation included in the material cost? Can I transport it myself? What type of transportation is needed: mules, vans, small trucks, dump trucks?

- **Storage:** Determine whether the material will be used immediately or if it needs to be stored for some time.

  Example: Do I have a place to store the materials if I purchase them in advance or all at once to optimize transportation? Can the supplier store the materials until they are needed? Could the materials be damaged if left exposed to the elements?

2. **Service Contracts:** Contracts or work orders are made to engage external contractors for specific services. It is suggested to consider the following aspects from the beginning when Finelizing contracts:

- **Scope:** Specify the scope of each activity or task. This allows for reviewing whether the agreed-upon work was completed correctly when milestones are reached or at the end of the contract.

- **Costs, Timelines, and Payment Methods:** Clearly specify these aspects to avoid confusion or disputes at the end of the contract. It is advisable to adhere to relevant legislation and regulations for such contracts.

- **Documentation and Contractor Assurance:** Ensure that all contractors are of legal age and have appropriate insurance coverage for risks, health, or any requirements as per local regulations.

- **Put everything in writing and have it signed by both parties.** This provides clarity regarding the commitments.

- Also, adhere to any additional measures specified by legislation and regulations to ensure contract compliance.

¡NOTAS!

→ *In most cases, the construction or intervention of small or basic infrastructure projects should not require the hiring of external services. They can be done autonomously, using local community labor.*

Construction and Project Monitoring

Objective	Expected Technical Results Organize the group through committees, trades, and roles to facilitate construction and proper project monitoring.
Expected technical outcomes	A **list** or **table** with the committees, their tasks, and the responsible participants.

Activity: Construction and Project Monitoring

The objective of this activity is to familiarize participants with tasks that simplify the coordination of infrastructure construction. It is ideal for the knowledge gained in this session to be applied in a practical and dynamic activity, where participants organize themselves into committees, simulating the execution and monitoring of a small infrastructure project based on the following points:

Resources:

a. Blueprint Control:

- Ensure that the most up-to-date blueprints are used for project execution.
- Ensure that the construction aligns with the defined blueprints. If there are any modifications, it is important to note them on the blueprints.

b. Project Monitoring:

- Regular monitoring of project progress, either daily or weekly according to the schedule.
- Monitoring can be done using a Project Logbook, where all significant events in the project are recorded.

  Example: Start or completion of important activities, weather events, or delays in material supplies that impact execution and cause delays.

c. Budget Control, Purchases, and Additional Contracts:

- Ensure that the quantities of materials and services defined in the budget are accurately purchased or contracted.

- If there is a need to add new services or materials, they must be approved by the committee responsible for project administration. They should be added to the section of additional purchases and contracts in the budget.

- Organize and keep records of all invoices to have an overview of expenses. For effective budget control, it is recommended to assign the respective budget item code to each invoice.

d. Inventory Control:

- Monitor purchased materials to ensure they match the invoices and that the planned quantity for each activity in the budget is used.

e. Personnel Control:

- Track the contracted workforce for the project, including the number of people working on-site each day, contract validity, and compliance with social security requirements.

Regardless of the type and size of the infrastructure and whether the construction workforce is local, community-based, or external and contracted, it is recommended to have a group responsible for project monitoring and expense control.

For construction projects, it is beneficial for community members, whether or not they are directly involved in the construction, to organize themselves into committees. This facilitates organization, plan monitoring, and intervention coordination.

Recommendations!

→ *It is ideal for the committees, convened by a project leader or director, to meet on a weekly or bi-weekly basis to monitor project execution.*

→ *To facilitate organization and documentation, it is possible to use the project monitoring template provided in this guide on a daily or weekly basis.*

Organization by Committees:

The organization and number of committees may vary depending on the scale of the infrastructure being built and the number of participants in the project.

The following committees are proposed:

a. Administration and Coordination::

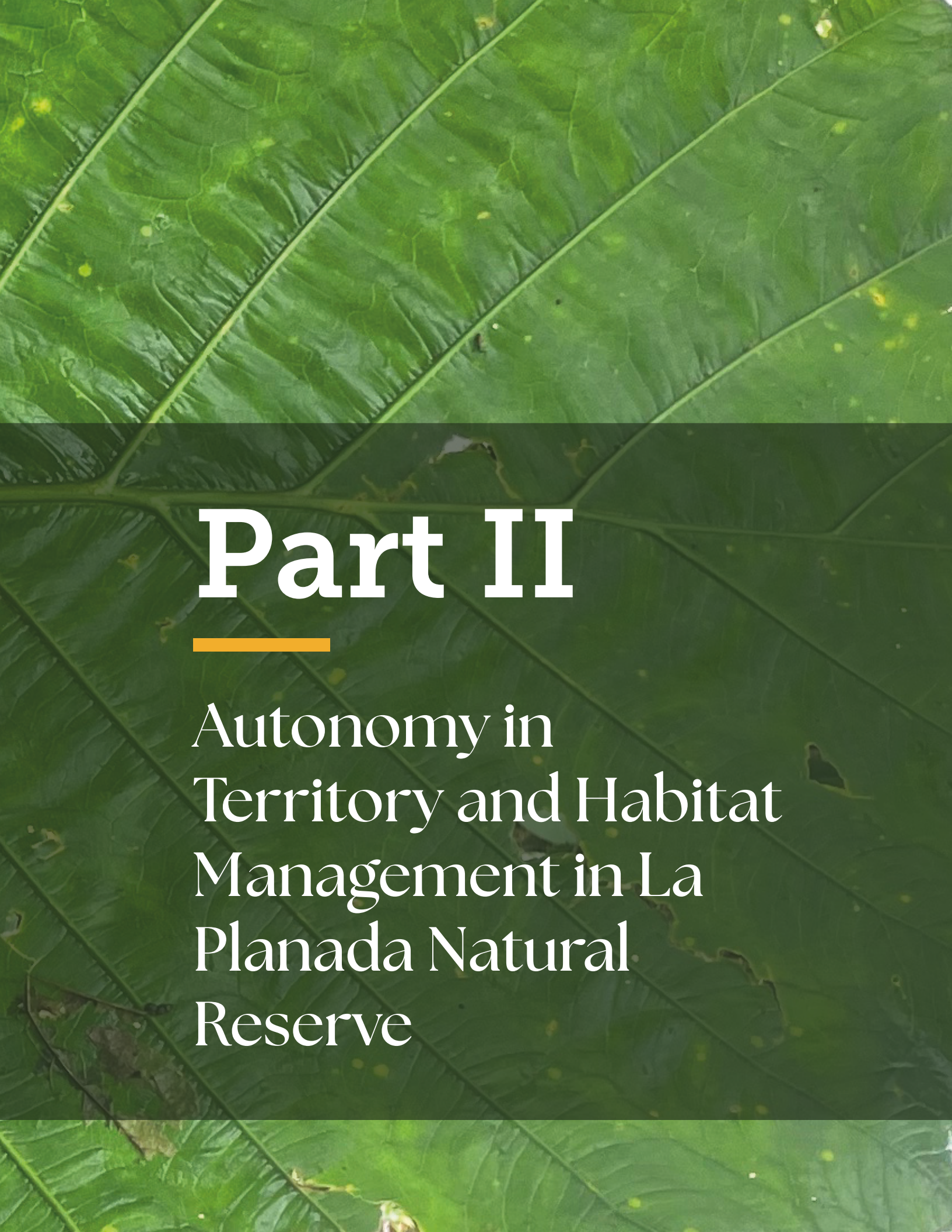
- Responsible for obtaining material quotations, preparing the budget, and managing contracts.
- Responsible for budget control, purchasing, and contract management.
- Responsible for personnel management on-site.

b. Project Execution:

- Responsible for project monitoring, blueprint review, and changes.
- Responsible for inventory control.
- Responsible for documenting changes in blueprints.

Construction Monitoring:

Project					
Construction Monitoring	Date		Version		
	Start Date		Completion Date		
Month / Week / Day	Description of Activities Performed	Inventory Notes	Unexpected Events / Additional Tasks	Construction Staff Notes	Observations
Schedule Evaluation	On time		Delayed		Ahead of schedule	

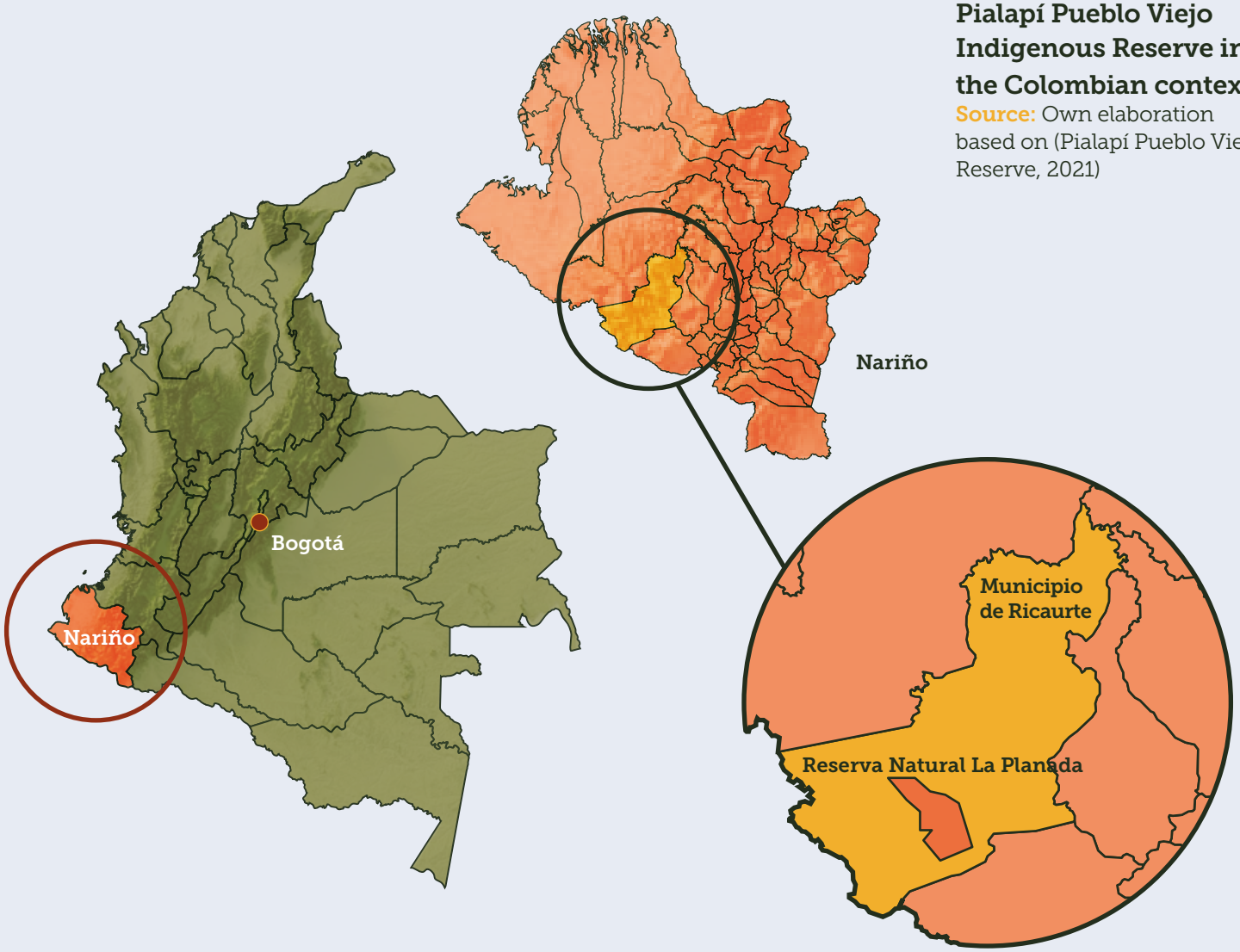


Part II

Autonomy in Territory and Habitat Management in La Planada Natural Reserve

Parte II

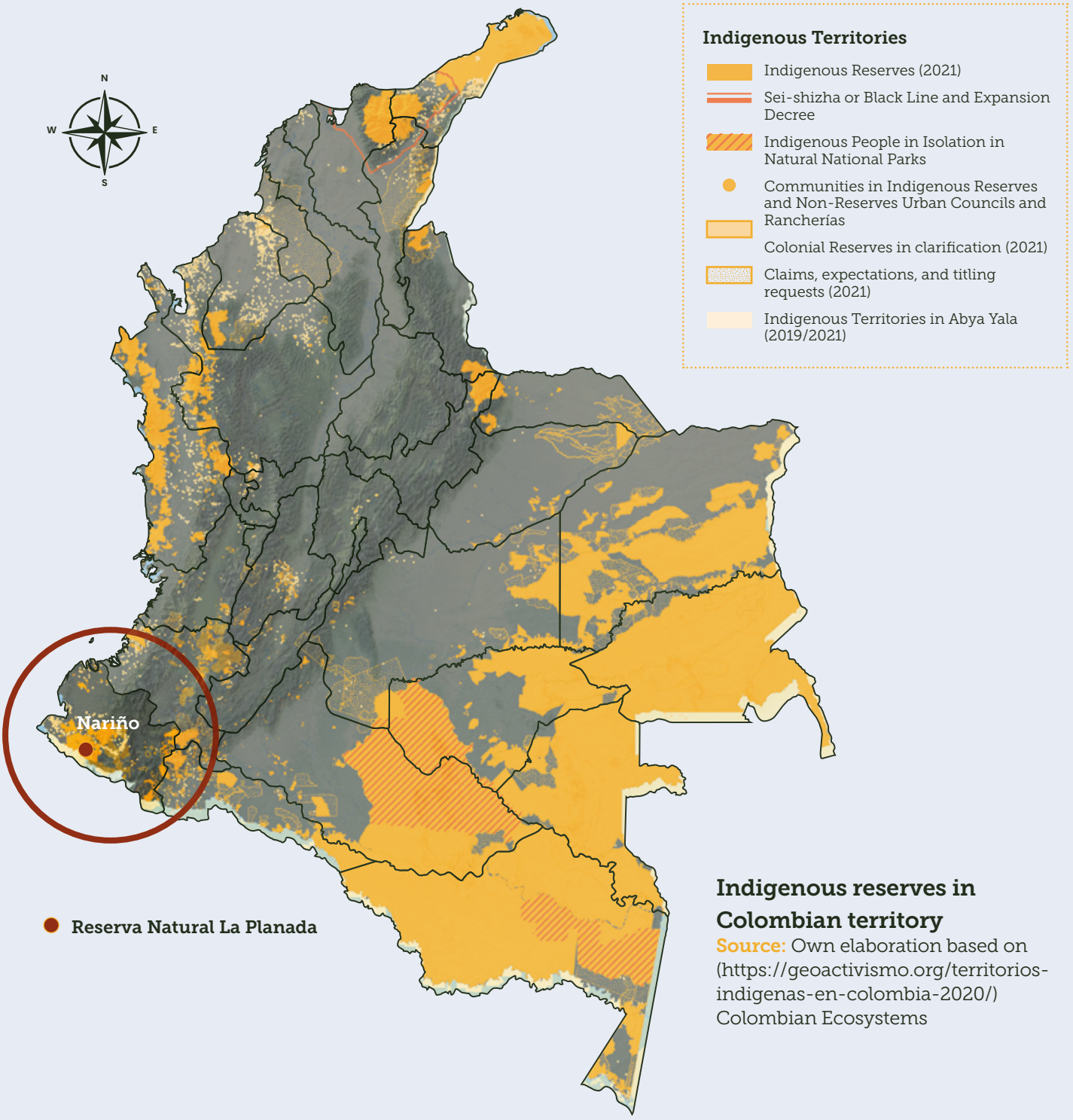
PIALAPÍ PUEBLO VIEJO INDIGENOUS RESERVE AND LA PLANADA NATURAL RESERVE



Pialapí Pueblo Viejo Indigenous Reserve in the Colombian context
Source: Own elaboration based on (Pialapí Pueblo Viejo Reserve, 2021)

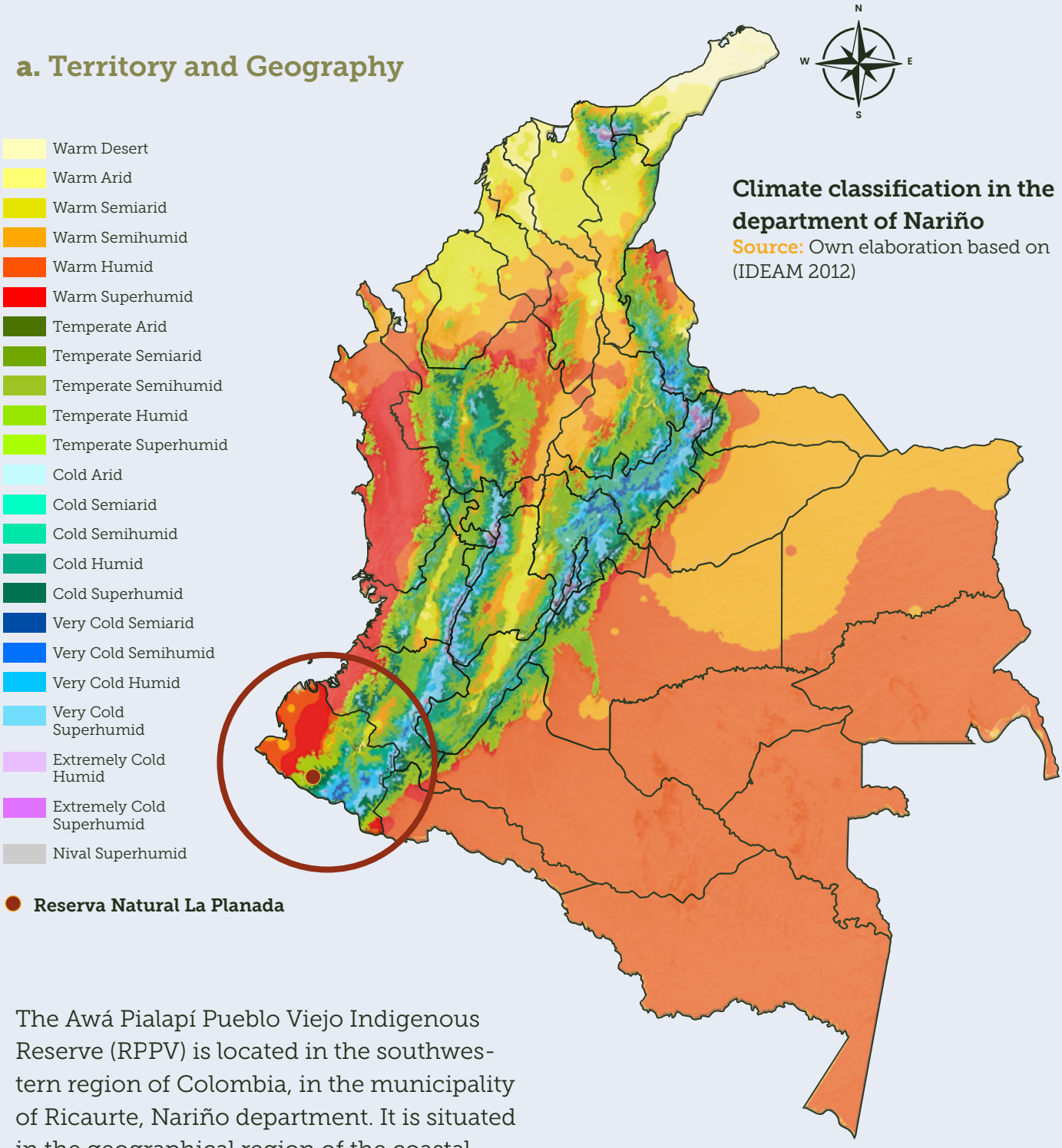
Part II of the Guide focuses on the application of the training modules and components described in Part I in a specific community: La Planada Natural Reserve (RNLP), located in the Pialapí Pueblo Viejo Indigenous Reserve (RPPV) in the department of Nariño, southern Colombia.

In this part of the Guide, in addition to sharing and systematizing the results obtained during the research, training, and collective production process with the community, anecdotes, findings, and notes from the work are included.



Indigenous reserves in Colombian territory
Source: Own elaboration based on (https://geoactivismo.org/territorios-indigenas-en-colombia-2020/) Colombian Ecosystems

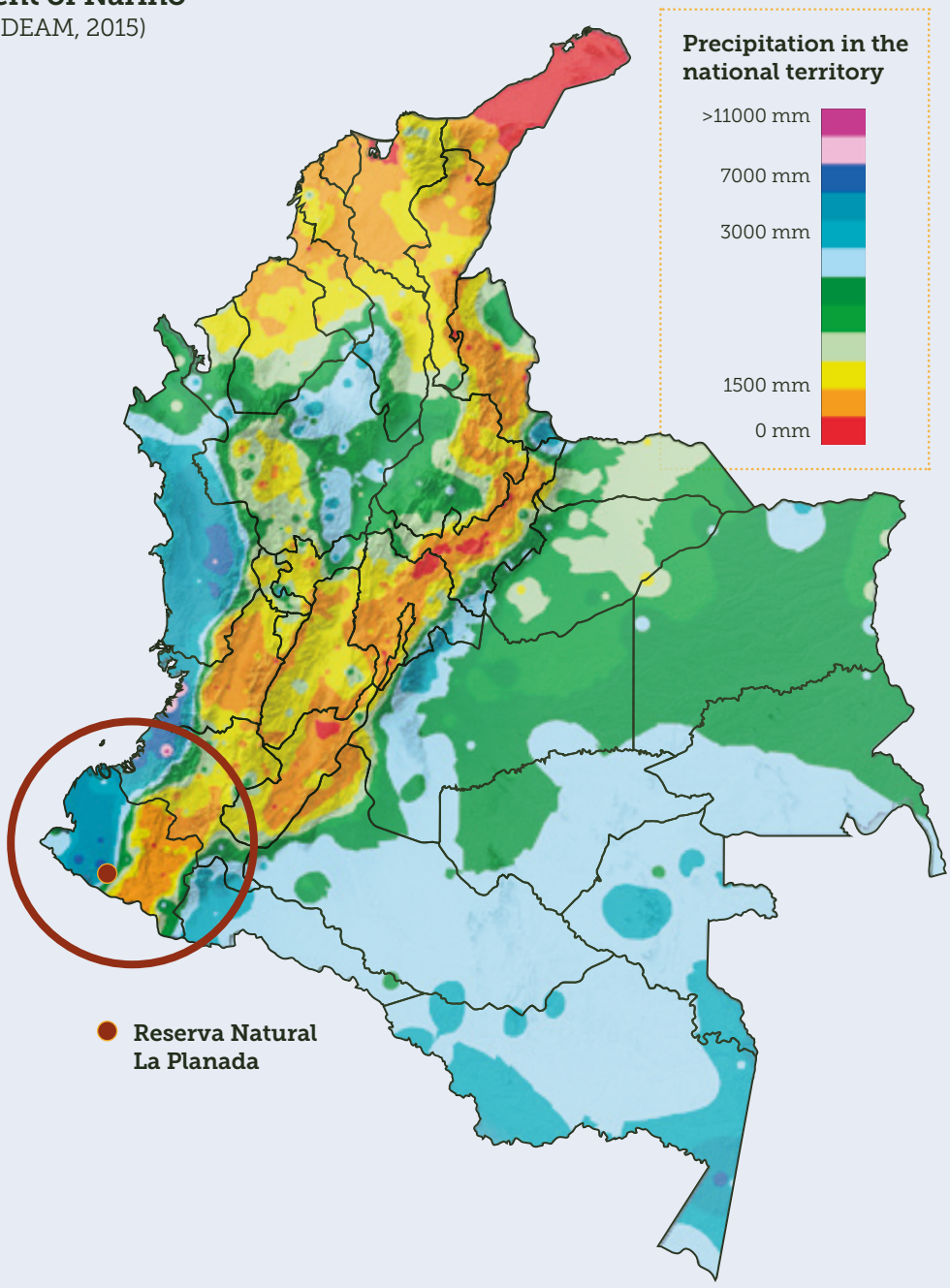
a. Territory and Geography



Climate classification in the department of Nariño
Source: Own elaboration based on (IDEAM 2012)

The Awá Pialapí Pueblo Viejo Indigenous Reserve (RPPV) is located in the southwestern region of Colombia, in the municipality of Ricaurte, Nariño department. It is situated in the geographical region of the coastal Andean foothills and is part of the high Andean cloud forest ecosystem. Its proximity to the Cumbal, Chiles, and Azufral volcanoes influences the circulation of winds and the high concentration of minerals in the area. These geographical conditions result in high humidity in the territory and facilitate the regulation and formation of bodies of water such as streams, brooks, and rivers, which in turn feed important internal rivers such as the Güiza River and the Pialapí River. All these conditions create an ideal ecosystem for the growth of a wide variety of epiphytic

Precipitation in the department of Nariño
Source: Own elaboration based on (IDEAM, 2015)



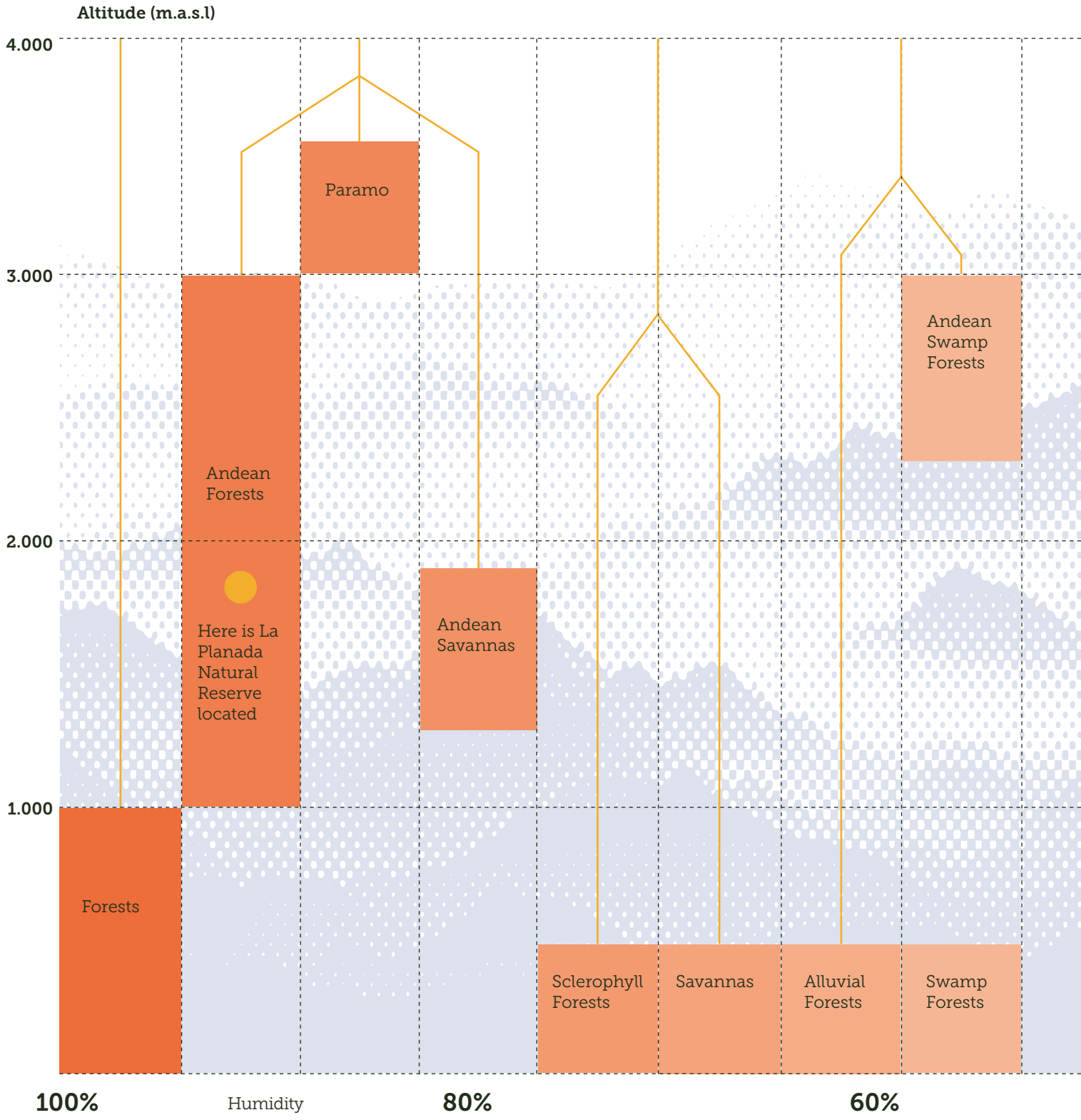
Environmental Risks

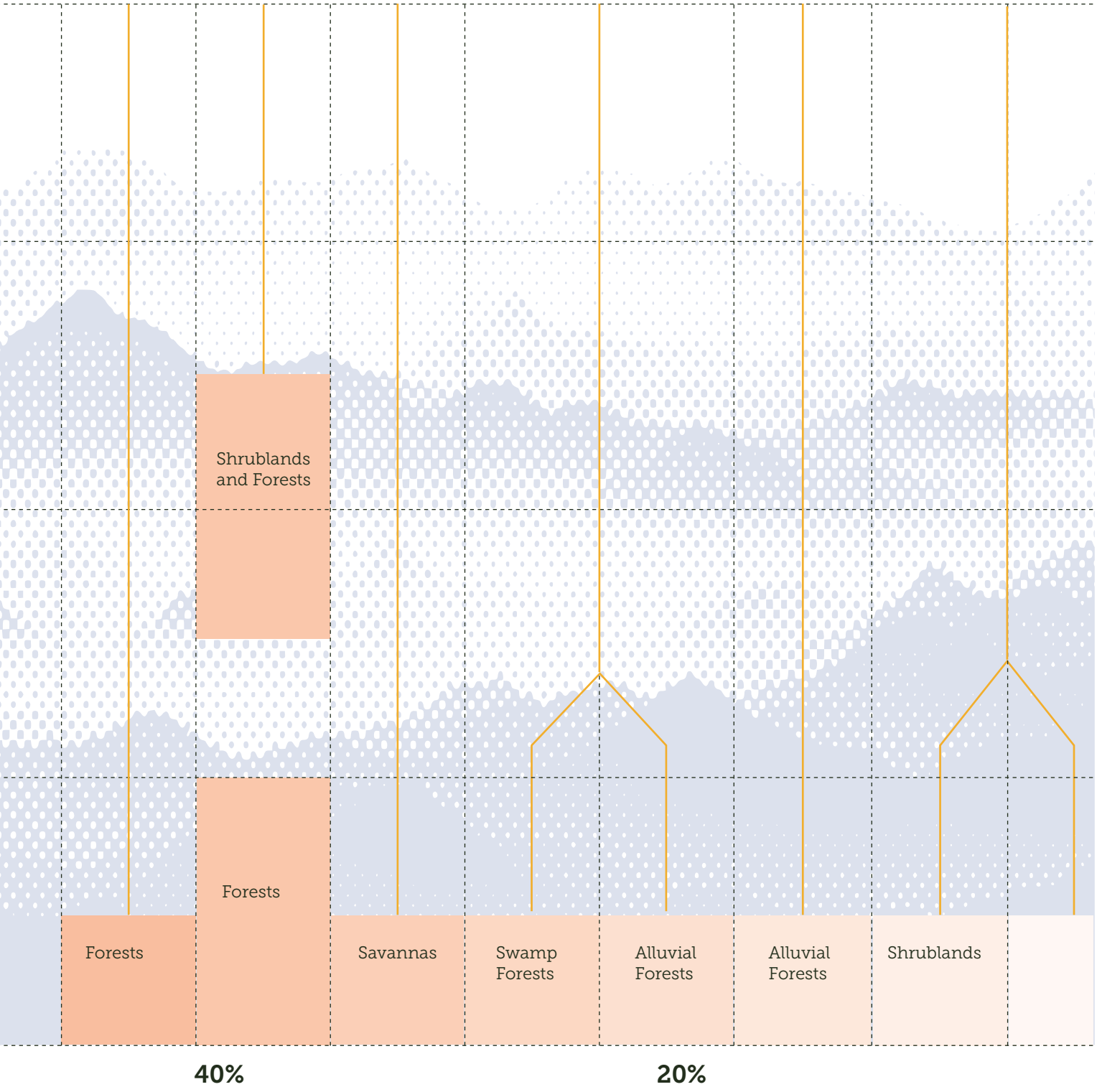
Several collectively identified aspects currently affect the environment, including:

- *The use of fungicides, herbicides, and inorganic fertilizers.*
- *Chemicals used in the production of coca paste.*
- *Deforestation due to changes in land use such as pastures for agriculture and livestock, and for coca leaf cultivation.*

plants, ferns, and mosses that absorb moisture from the air and rain.

Within the RPPV, which covers an area of 10,523 hectares, lies the La Planada Natural Reserve (RNLP) with an extension of 3,200 hectares. Within this uniquely biodiverse territory, 110 species of trees, 90 species of birds, 41 species of mammals, 20 species of herpetofauna (amphibians and reptiles), and 68 species of insects have been recorded (Resguardo Pialapí Pueblo Viejo, 2021).


Altitude (m.a.s.l)
4.000
3.000
2.000
1.000
Paramo
Andean Forests
Here is La Planada Natural Reserve located
Andean Savannas
Andean Swamp Forests
Forests
Sclerophyll Forests
Savannas
Alluvial Forests
Swamp Forests
100%
Humidity
80%
60%



Colombian Ecosystems

Source: Own elaboration based on (Etter, Andrade, Saavedra, Amaya, Cortes, Arevalo, 2021)

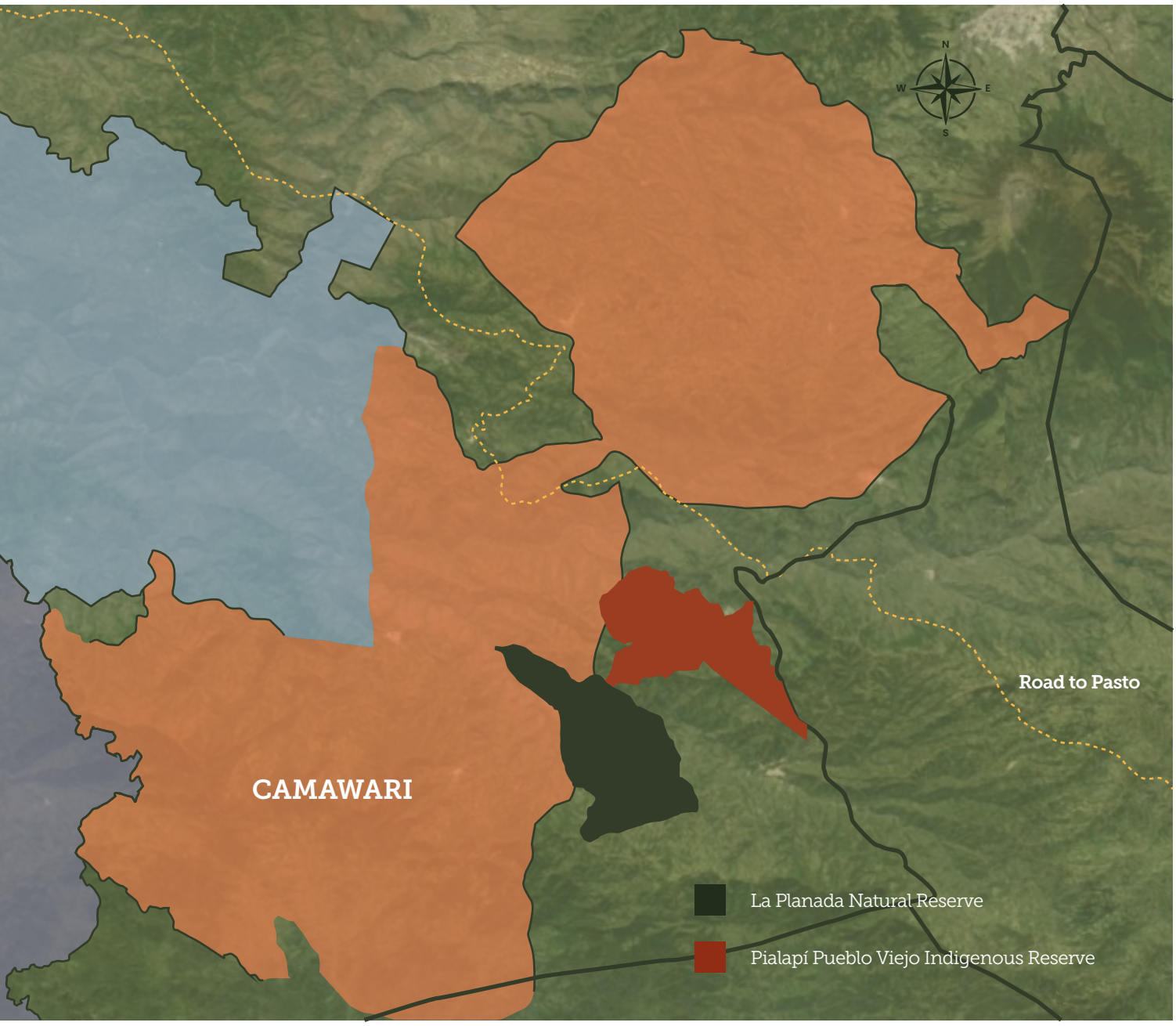
b. History of the Pialapí Pueblo Viejo Indigenous Reserve

The Awá Indigenous People originate from the indigenous group Cuayquer, who historically lived by the seaside in the Tumaco Bay, in the present-day department of Nariño. In the mid-20th century, they began to identify themselves as Inkal Awá, which means "people of the mountain or jungle." Since colonial times, this indigenous community has been forced to relocate due to various mining and agricultural exploitation projects, as well as the boom in coca cultivation. However, in 1993, thanks to the new Colombian Constitution of 1991, the historical recognition of the Awá people's ancestral territory was initiated, leading to the creation of the Pialapí Pueblo Viejo Indigenous Reserve (RPPV). The Awá community was granted approximately 6,750 hectares of vacant land in the municipality of Ricaurte, Nariño. At that time, the population of the reserve consisted of 668 individuals and 117 families, which has since grown to over 1,700 inhabitants (Corte Constitucional, 2018).

Since that historical moment, the RPPV, along with ten geographically neighboring Awá reserves, became part of the Greater Awá Council of Ricaurte (CAMAWARI), which was established in 1992. This political organization is affiliated with the Greater Awá Family, which comprises three other organizations: the Awá Indigenous Unity (UNIPA) in Nariño, the Association of Awá Indigenous Reserves in Putumayo (ACIPAP), and the Federation of Awá Centers in Ecuador (FCAE). This geopolitical structure of the RPPV has supported its inhabitants in their fight to influence public policy and claim their ancestral rights. One of their significant achievements was the development of the "Ancestral Mandate of Self-Justice" docu-

Organizations of the Awá people
Source: Own elaboration

ment in 2015, which aimed to grant Awá communities in Colombian territory the right to exercise autonomy, self-governance, and their own justice system (Resguardo Pialapí Pueblo Viejo, 2021).



c. Ancestry and Awá Culture

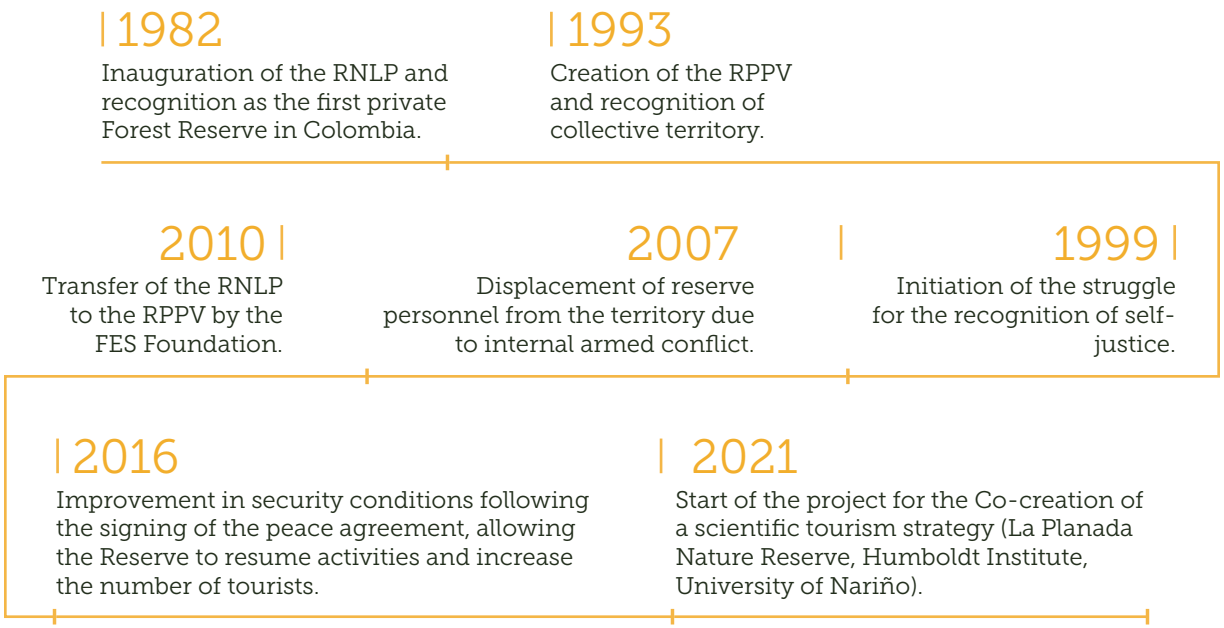
The Awá people center their definition of territory as the home of all Awá, synonymous with life itself. Within this territory, known as Katsa, lies water, the jungle, the river, the people, and everything that brings life. The four pillars that characterize the Awá people, unity, autonomy, culture, and identity, are evident within their territory. The origin, identity, and wisdom of the Awá are based on their interdependence with their territory, or as they call it, Katsa. It is within this space that balance is maintained between spirits and nature, and where all activities related to human development take place.

According to Awá cosmology, there exist four simultaneous worlds, each of which is represented within their territory, or Katsa. First, there is the world of those who "eat smoke," Masa su, where the smallest beings such as ants, worms, and other insects, which are considered spiritual beings, reside. This world is represented as "what lies underground." Next is the world of humans, Pas su, where the Awá people live alongside all beings of nature and the protective spirits of plants and animals. Following that is the world of the deceased, Kutña su, where they coexist with their ancestors and other deceased individuals. This world is represented in the air, where birds and flying species reside. Finelly, there is the world of the creator, Ampara su, inhabited by celestial bodies, the moon representing feminine energy, and the sun representing masculine energy, both of which are considered the creators of the world (Gualti 3, 2023).

d. History of the La Planada Nature Reserve

In 1981, the international organization World Wildlife Fund (WWF) initiated a project to identify potential areas for biological conservation in Colombia. In the southwest of the country, the team visited a farm dedicated to timber extraction and livestock activities. This farm, called "Buenos Aires La Planada," was located in what is now the territory of the La Planada Nature Reserve (RNLP). Due to the high biodiversity found in the area, including hundreds of endemic bird species, endangered amphibians, reptiles, and mammals, the WWF designated the area as a priority for ecosystem management and conservation. Through this organization, with the national support of the FES Foundation, the first lots of the farm were acquired to transform it into a natural reserve, thus becoming the first private forest reserve in Colombia. The official inauguration of the RNLP took place in 1982, involving the participation of Awá and neighboring peasant communities.

In 2007, due to internal armed conflict in the country, the officials working in the RNLP had to abandon the reserve. However, in 2010, the FES Foundation donated the land and assigned the care, management, and administration of the RNLP to the Pialapí Pueblo Viejo Indigenous Reserve (RPPV), which remains the current owner and manager of the preserved lands. Since its inception, the RNLP has hosted numerous researchers and visitors interested in its abundant biodiversity, as well as those interested in the history and cosmology of the Awá culture (Gualti 1, 2023).



Source: Own elaboration based on information from (Gualti 1, 2023)

Module 1

Recognition: Territory, Population, Culture

→ Background

Since 2021, an interdisciplinary team of researchers from the University of Nariño, the Humboldt Institute, and indigenous knowledge holders from RPPV have been developing the project "Design and testing of a social innovation strategy for scientific nature tourism in the ancestral Awá territory of the department of Nariño" in the RNLP. The result of this process was the participatory design of a scientific and nature tourism strategy as an alternative for the sustainable management of the Reserve.

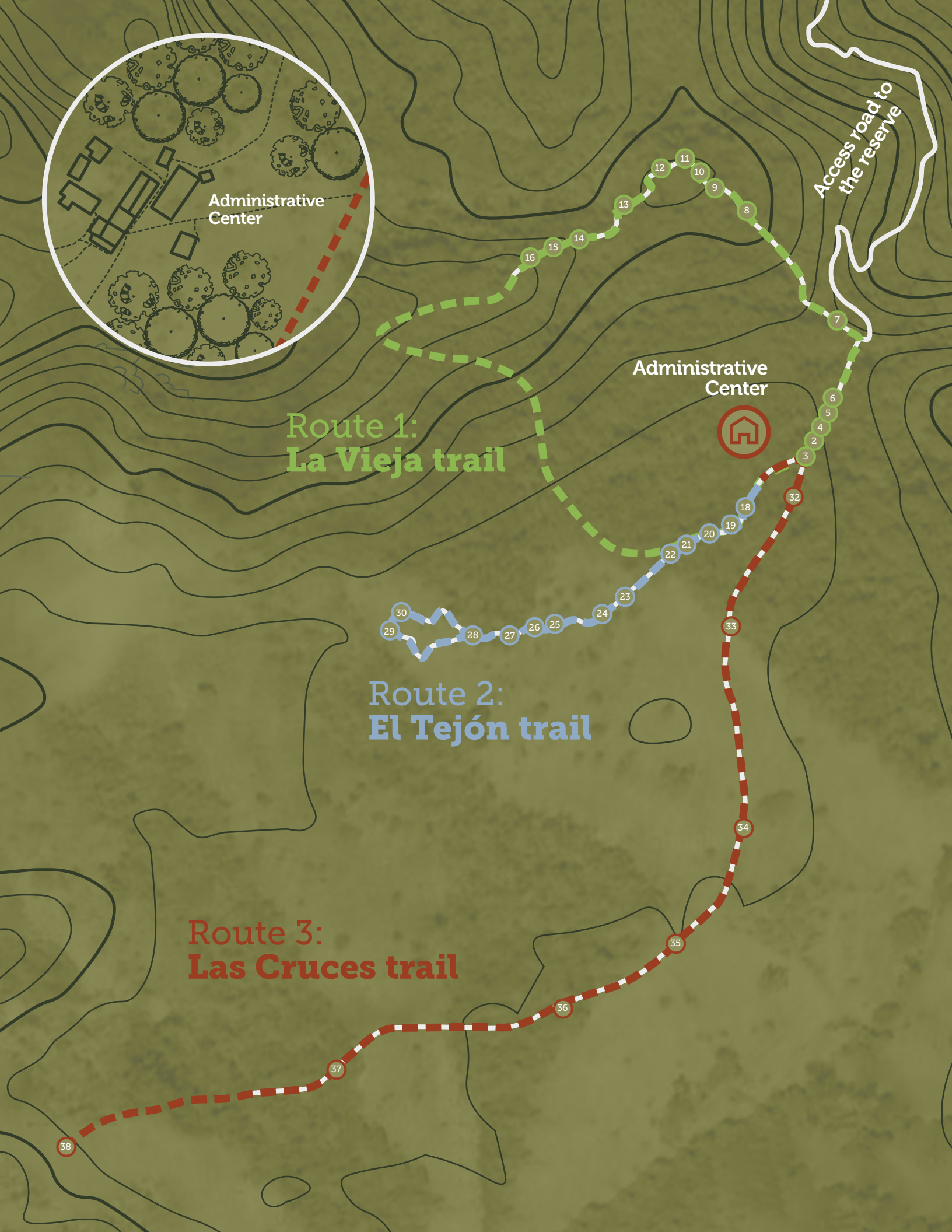
The project involved the characterization of local ecosystems based on the knowledge of Awá researchers through:

- Biological monitoring of five specific groups (birds, herpetofauna, epiphytes, useful plants, and butterflies).
- Hiking for the identification of tourist attractions.
- Exchange of experiences (trips, fairs, meetings, and other events).

This served as the basis for mapping the Reserve's tourism, through which the main natural, cultural, and scientific attractions were identified, most of which are connected by three main trails: El Tejón, La Vieja, and Las Cruces. These trails also have infrastructure and support services for the operation of the Reserve, used by administrative staff, members of the community, visitors, and scientists.

→ Identification, classification, and assessment of existing and future infrastructure

Taking into account the content presented in Part I of this Guide, the process began with the recognition of the territory through tours of the Reserve, specifically focusing on the three main trails prioritized by the community within the framework of the construction of the scientific and nature tourism strategy. The guiding, which combined scientific and cultural aspects (cosmogony), was conducted by members of the Awá community (project participants). During the tours, a critical evaluation was made of the condition and intervention needs of the infrastructure, as well as the suitability and durability of using specific local materials according to their relevance.


Administrative Center
Access road to the reserve
Administrative Center
Route 1:
La Vieja trail
Route 2:
El Tejón trail
Route 3:
Las Cruces trail
1
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2 Ingreso a Centro Administrativo
3 Centro Cultural
4 Parqueadero
5 Vivero
6 Descansadero y Letrero ingreso RNLP
7 Mirador
8 Marcador estación plantas epífitas
9 Hojas de "Tía" y "Sarapanga"
10 Descansadero
11 Inicio sendero "Don Diego"
12 Barandas / camino
13 Marcador "T1F1"
14 Escaleras / barandas
15 Escaleras
16 Árbol de Gualte
18 Letrero "El Tejón"
19 Orquideario
20 Puente "largo" (1)
21 Puente "corto" (1)
22 División de caminos ("El Tejón" y Centro Científico")
23 Puente "corto" (2)
24 Puente "corto" (3)
25 Carbón
26 Bifurcación de caminos
27 Puente "mediano"
28 Bifurcación de caminos
29 Descansadero y quebrada "El Tejón"
30 Letrero "El Hondón"
32 Ingreso a RPPV y Caseta guardia
33 Quebrada "Dulce"
34 Puente quebrada "del Mar"
35 El "Gualtal"
36 Descansadero
37 Puente quebrada "Calladita"
38 Mirador

At the Administrative Center, you can find the infrastructures corresponding to the items A. B. C. D. E. F. G. H. I. J. K. L. M. N. O.

Administrative Center

It is important to highlight that the three trails start at the Administrative Center, which is the first contact visitors have with the Reserve. It includes spaces for researchers and administrative staff, offices, and meeting rooms. There are also buildings for visitor use and services, such as the restaurant, kitchen, laundry, sanitary facilities, library, and museum. The Cultural Center will also be located in this area, with its architectural design and technical support studies being carried out during the year 2022 (currently, the Resguardo is in the process of resource management for the construction).

Literal	Photo	Infrastructure Name	Classification	Type of Intervention	Notes
a		Dining area - Kitchen	Tourist service (medium)	Improvement	• Hide gas pipes located against the back wall of the kitchen. • Create a mural. • Construct access stairs to the rear balcony to make it public.
a'		Boot wash	Supplementary (equipment)	Improvement	• Improve the washing station and add an umbrella stand.
b		Office	Operational (medium)	Improvement	• Construct access stairs to the rear balcony to make it public
c		Hall - Museum - Library	Educational / Tourist service (medium)	Improvement	
c'		Concrete stairs	Supplementary (equipment)	Improvement	• Intervene on the stairs to make the finish non-slip. Applies to all stairs in the Administrative Center.
d		Restrooms	Tourist service (medium)	Improvement	• Prepare a janitor's room within the bathrooms.

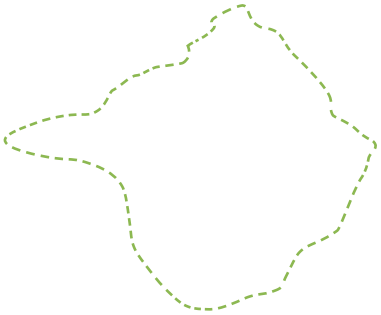
e		Booth (Butterfly observation area)	Educational / Recreational (small)	Reconstruction	
f		Entrance trail to the Administrative Center	Supplementary (small)	No intervention needed	
g		Accommodation cabin 1	Tourist service (medium)	Improvement	• Review and improve the amenities (hooks and shelves in bathrooms). • Add an umbrella stand and signage with names in Awapit.
h		Accommodation cabin 2	Tourist service (medium)	Improvement	• Review and improve the amenities (hooks and shelves in bathrooms). • Add an umbrella stand and signage with names in Awapit.
i		Hotel El Pavao / Former Scientists' Center (lodging)	Tourist service (medium)	Improvement	• Review and improve the amenities (hooks and shelves in bathrooms). • Add an umbrella stand and signage with names in Awapit.
j		Laundry	Operational (medium)	No intervention needed	


© Hotel El Pavao

Interventions to infrastructures related to **public services systems:**

Literal	Infrastructure Name	Classification	Type of Intervention	Notes
k	Sewage System	Networks (medium)	Improvement	• Review the independence in the disposal of gray and black water, and its treatment.
l	Solid Waste Treatment System	Networks (medium)	New construction	• Improve classification and disposal. • Implement a waste collection system with easily accessible collection points for visitors.
m	Septic Tank	Networks (medium)	Improvement	• Ensure regular maintenance.
n	Electrical Wiring	Networks (medium)	New construction	• Review the internal electrical network and installations. • Replace the external electrical wiring with rubber-coated cable.
o	Potable water Supply System	Networks (medium)	Improvement	• Review and improve the system, ensuring continuity and optimal service during extreme rainfall and drought periods.

Water collection tanks



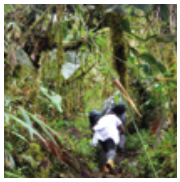
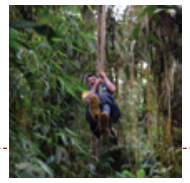
→ Route 1: La Vieja Trail

Distance: **2.3 km**
Average Duration: **3 horas**
Maximum Altitude: **2000 m.s.n.m**

Minimum Altitude: **1743 m.s.n.m**
Difficulty: **Moderate**

La Vieja is a trail that allows you to experience the cloud forest, observe all biological groups, and discover some scenic landmarks, such as the viewpoint (Gualti 8, 2023).

No.	Photo	Infrastructure Name	Classification	Type of Intervention	Notes
01		Administrative Center			
02		Rest Area / Picnic Area	Complementary (small)	Improvement	• Add equipment and improve infrastructure (base and pillars).
03		Cultural Center	Operational (large)	New construction	• Projected: in the process of resource management for construction.
04		Parking Lot	Complementary (medium)	New construction	• Under construction.
05		Plant nursery	Operational (medium)	Improvement	• Regular maintenance, equipment, and improvement.
06		Rest Area (First point of contact with the Reserve)	Recreational (small)	Reconstruction	• Include the logo of the RNLP on the welcome sign. • Rebuild resting area.

07		Viewpoint	Recreational (medium)	New construction	• Conduct soil studies to verify if it is a high-risk zone (landslides due to rain). Two phases are proposed: beautify the existing one and build a new one in the future.
08		Marker Station 1 Epiphytic Plants	Complementary (equipment)	Reconstruction	• Create a simple design for signage to label trees and markers on trails.
09		"Sarapanga" Leaves and "Tía" Leaves	Complementary (equipment)	New construction	• Include signage.
10		Rest Area	Recreational (small)	Reconstruction	• Include equipment.
11		Start of "El Diego" Trail Station 2 Epiphytic Plants	Complementary (equipment)	Improvement	• Improve signage.
12		Handrails and Pathway	Recreational (small)	Improvement	• Install handrails and stairs.
13		Marker "T1F1"	Complementary (equipment)	Reconstruction	• Include signage.
14		Stairs and Handrails	Recreational (small)	New construction	• Install handrails and stairs.
15		Stairs	Recreational (small)	New construction	• Install handrails and stairs.
16		"Guanderas"	Complementary (equipment)	New construction	• Include signage.

Route 2: El Tejón trail

Distance: **1.2 km**
Average Duration: **2 horas**
Maximum Altitude: **1863 m.s.n.m**

Minimum Altitude: **1843 m.s.n.m**
Difficulty: **low**

El Tejón is a trail that allows for the observation of a variety of bird species and palms such as palmito, gualte, chalar, inguanul, chontilla, and guarnul (Gualti 8, 2023).

No.	Photo	Infrastructure Name	Classification	Type of Intervention	Notes
17		Administrative Center			
18		"El Tejón" sign	Complementary (equipment)	No intervention needed	• Included in the Scientific and Nature Tourism Project.
19		Orchidarium	Operational / Recreational (medium)	New construction	• Projected at the preliminary design stage.
20		"Long" bridge	Operational / Recreational (medium)	Improvement	• Include railings. • Replace the flooring with concrete tiles.
21		"Short" bridge (1)	Operational / Recreational (small)	Reconstruction	• Reconstruct the concrete base structure of the bridge.
22		"El Tejón Trail" and "Scientific Center" signs at the junction	Complementary (equipment)	No intervention needed	• Included in the Scientific and Nature Tourism Project. • Adapt the platform so that tourists can stand outside the path.

23		"Short" bridge (2)	Operativa / Recreativa (mediana)	Reconstruction	
24		"Short" bridge (3)	Recreational (small)	Reconstruction	
25		Coal	Complementary (equipment)	New construction	• Include signage.
26		Path junction	Complementary (equipment)	New construction	• Include signage.
27		"Medium" bridge Salsipuedes Creek	Operational / Recreational (small)	Improvement	• Install railings. • Change to concrete tiles.
28		Path junction	Complementary (equipment)	No intervention needed	• Install handrails and stairs.
29		"El Tejón" Creek Rest Area	Recreativa (pequeña)	Reconstruction	• Reconstruct the resting area (as it is the most visited route). • Include signage.
30		"El Hondón" sign	Complementary (equipment)	Improvement	• Improve signage.

→ Route 3: Las Cruces trail

Distance: **1.2 km**
Average Duration: **2 horas**
Maximum Altitude: **1863 m.s.n.m**

Minimum Altitude: **1843 m.s.n.m**
Difficulty: **low**

The Las Cruces Trail, along its open-air route, allows for the observation of lepidoptera (butterflies) and birds. It also provides the opportunity to see representative tree species of the area, such as the guayabillo and the chonta palm.

No.	Photo	Infrastructure Name	Classification	Type of Intervention	Notes
31		Administrative Center			
32		Entrance to RPPV and Guard House	Operational (small)	Reconstruction	• Demolish the guardhouse, redesign, and rebuild. • Improve signage (including logo).
33		"Dulce" Stream	Complementary (equipment)	New construction	• Install signage with recommendations for vehicles.
34		Bridge over "Del Mar" Stream	Complementary (equipment)	New construction	• Install signage with recommendations for vehicles.
35		"El Gualtal"	Complementary (equipment)	New construction	• Include signage.

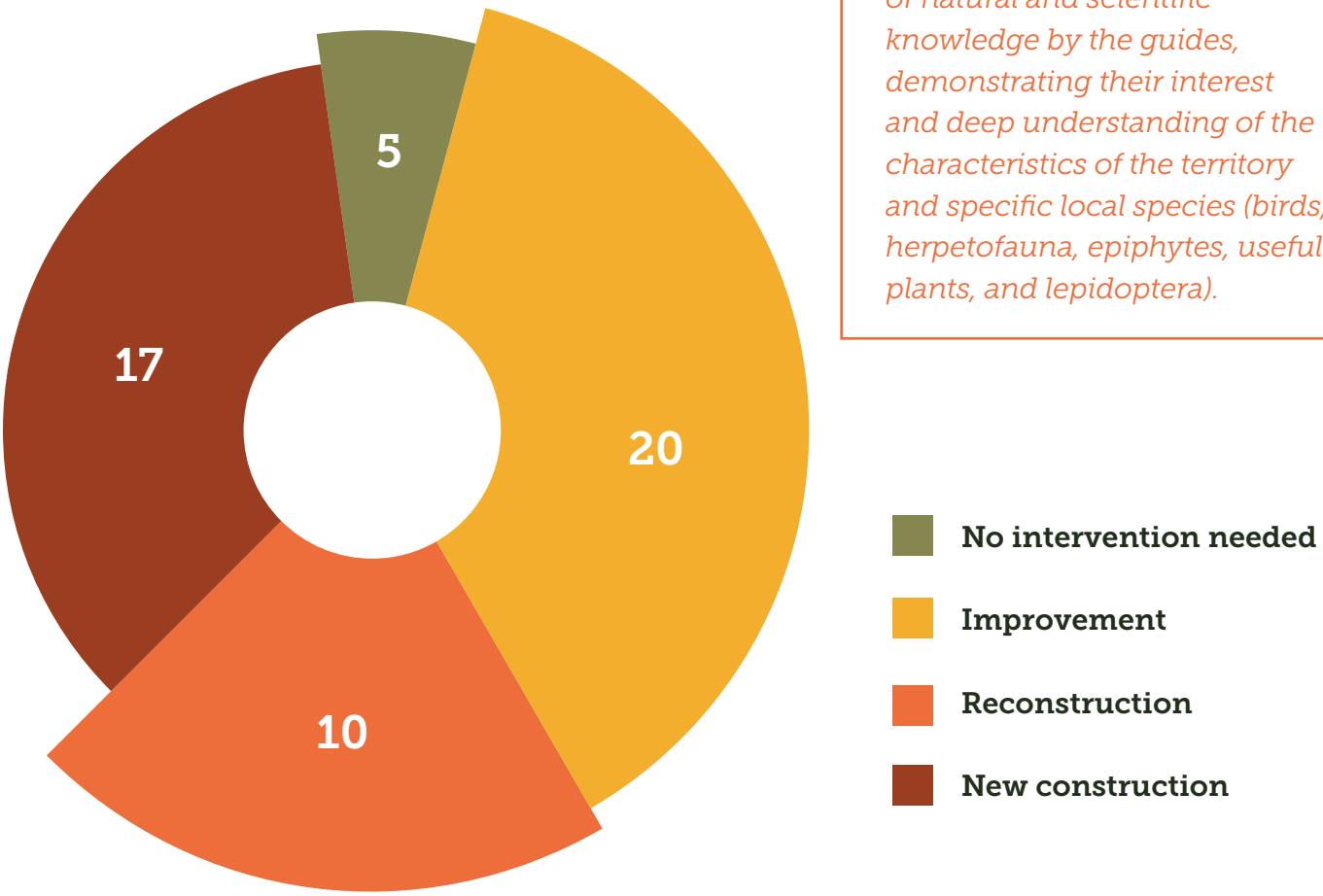
36		Resting Area	Recreational (small)	Improvement	• Construct access stairs to the rest area. • Improve furniture.
37		Bridge and "Calladita" Stream	Operational / Recreational (medium)	New construction	• Municipal responsibility.
38		Viewpoint	Recreational (small)	New construction	• Proposal for rest area - viewpoint, to be designed and built. • Include signage.

Assessment:

The assessment, conducted individually, began once the infrastructures were identified and classified. It is crucial to carry out this process before prioritization, as it allows understanding the type of intervention required for each of the infrastructures under discussion.

The guidance was provided by Awá co-researchers[3], both women and men, who combined scientific topics with stories from their own culture and cosmology. During the tours, there was evidence of the appropriation of natural and scientific knowledge by the guides, demonstrating their interest and deep understanding of the characteristics of the territory and specific local species (birds, herpetofauna, epiphytes, useful plants, and lepidoptera).

1. **Type of Intervention**



***3** Role assigned to members of the Resguardo involved in the Scientific and Nature Tourism Project developed in collaboration with the Humboldt Institute and the University of Nariño since 2021.

It was evident during the activity that there is respect and recognition for the role of co-researcher, regardless of gender or age. The process, which lasted a little over two years, has helped create a peer-to-peer relationship between the guides and those involved in administrative roles in the Reserve. This relationship is highly beneficial for the self-management processes of the territory as it facilitates the creation and consolidation of horizontal spaces for work and dialogue regarding planning and management tasks.

- *The tours also provided informal and relaxed spaces to learn about participants' daily lives and, consequently, understand their relationships with each other, their community, the built environment, and the ecosystem.*

- *The discussion about existing or future infrastructures and the available materials in the territory highlighted how the development and implementation of infrastructure projects are always linked to discussions about the environment and the supply of natural resources.*

Identification of Capacities and Potential within the Community

The identification of participants' capacities and potential was carried out through the "Knowledge and Skills" and "Gender Roles Discussion" activities. "Knowledge and Skills" was organized considering skills divided into four categories: construction, tourism (reception of tourists, administration, scientific tourism guidance, among others), production (agricultural products or crafts), and culture. For the purpose of this guide and its focus, only the results from the construction category were included.

The opening and promotion of spaces for training, learning, and skill-building, where participants have no prior knowledge or experience and come on equal footing, can help transform traditional dynamics of gender and intergenerational groups. New relationships are built based on acquired knowledge in spaces where there are no constraints or preconceptions.

Knowledge and skills: Construction

No. Participant	Wooden structure	Concrete structure	Thatching	Roofs	Adobe brick manufacturing
♀ 1	None	None	None	None	None
♀ 2	None	None	None	None	None
♀ 3	None	None	None	None	None
♀ 4	None	None	None	None	None
♂ 5	None	None	None	None	None
♂ 6	None	None	None	None	None
♂ 7	None	None	None	None	None
♂ 8	♂ I'm interested	♂ I'm interested	None	None	None
♂ 9	None	♂ I'm interested	None	None	None
♂ 10	None	None	None	None	None
♀ 11	None	None	None	None	None
♂ 12	♂ I'm interested	None	♂ I'm interested	None	None
♂ 13	None	♂ I know how to do it	None	None	None
♀ 14	None	None	None	None	None
♂ 15	None	♂ I know how to do it	None	None	None
TOTAL	**179**	**2**	**4**	**1**	**0**	**0**

					Men	Women
Stone walls and cladding	**Plumbing**	**Electricity**	**Painting**	**Carpentry: doors, windows, and furniture**	**Decoration**	**Wood construction**
None	None	None	None	None	♀ I'm interested	None
None	None	None	None	None	None	None
None	None	None	None	None	♀ I'm interested	None
None	None	None	♀ I'm interested	None	♀ I'm interested	None
None	None	None	None	None	None	None
None	None	None	None	None	None	None
None	None	None	None	♂ I'm interested	♂ I'm interested	♂ I'm interested
None	None	None	None	None	♂ I'm interested	♂ I'm interested
♂ I'm interested	None	None	♂ I'm interested	None	None	None
None	None	None	♂ I'm interested	None	None	None
None	None	None	None	None	♀ I'm interested	None
None	None	♂ I'm interested	♂ I'm interested	♂ I'm interested	None	None
None	None	♂ I'm interested	♂ I know how to do it	None	None	None
None	None	None	♀ I'm interested	None	♀ I'm interested	None
None	None	♂ I'm interested	♂ I'm interested	♂ I'm interested	♂ None	♂ I'm interested
1	**0**	**3**	**6**	**3**	**7**	**3**

Gender Roles Conversation

During the gender roles conversation, each group was able to freely express their opinions about the differentiated roles and responsibilities assumed by men and women within the community.

Knowing these aspects allows for a more appropriate approach to the use of tools and employment, so that participation, relationships among participants, and decision-making are not affected by a lack of understanding of social dynamics on the part of those leading the activities.

Momentos de cambio	Participación de las mujeres en el proyecto de TCyN y la RNLP	Las relaciones de género hoy (al interior del proyecto)	Propuestas, perspectivas futuras y logros esperados
Women acknowledged that their involvement in the tourism project represented a moment of change in their lives, their relationship with men, and the culturally assigned roles for each gender, opening up new opportunities and responsibilities for them in the community. Another aspect they highlighted as an empowerment factor was their involvement in the Indigenous Guard[4]. *"It opened our consciousness a bit more... that women do play a fundamental role in our communities."* (Yuri, 32 years old)	Women recognized that the tourism project has been instrumental in generating autonomy and self-awareness regarding their strengths and capabilities. For example, some have obtained leadership positions as a result of their participation in the project (Director of the RNLP and councilor of their community). *"From that (TCyN), I also became part of the Guard and now I am a councilor in my community."* (Kely, 25 years old)	Men recognize that the project has created spaces for dialogue in which men and women feel mutually supported and exchange tasks to distribute learning and knowledge. They expressed that this has led them to transition from authoritarian positions to more respectful ones.	Women acknowledged that they would like to promote women's entrepreneurship, empower women, and have their work recognized. They aim to encourage more women to participate in initiatives developed for the TCyN project, acquire new knowledge, and expand the scope of training for new participants. *"That one day God will help all women to start small businesses...and little by little, we become independent; we can also generate economic resources for our households, not only men."* (Betty, 49 years old)

Men also confirmed that this had been a significant moment of change in the culturally assumed roles of women, as well as in their relationship with women in both work and home settings. *"For women to start participating massively, it has been due to the Guard. The Guard has played a fundamental role in giving value to women, considering them more, including them in work, having their presence, and teaching them to lead."* (Libardo, 55 years old)	Women acknowledged that participating in the TCyN project has changed their relationships within the household, their relationship with men, and within their community.		Women expressed their interest in the following topics for capacity strengthening: women's rights and deepening knowledge related to the TCyN project. *"...because my intention is to continue practicing them and moving forward, and continuing to share with the other community members."* (Referring to the knowledge gained in the last two years) (Adiela, 29 years old)
Men recognized that in the Indigenous Guard specifically, there was a shift from a military mentality to one of reconciliation with the inclusion of women. *"We started slowly calling for women to lead these processes... the call was made, and many started to join, and today we have 15 women guards."* (Stiven, 24 years old)	Men also commented that with the inclusion of women in the TCyN project, there was a need to negotiate "burdens" and balance roles between men and women for the development of work, breaking traditional gender role stereotypes. It was expressed that nowadays, relationships are characterized by respect, camaraderie, and solidarity in carrying out activities. *"Both men and women can do the same work that a man or a woman can do."* (Roles in the TCyN project) (Gilberto, 21 years old)		

***4** In the Colombian context, Indigenous Guards are institutions specific to the indigenous peoples of the country, which arise from the need to protect territories, rights, and life. Their functioning, regulations, and composition are specific to each territory. They are typically composed of men, women, and children, whose general functions often include territory surveillance and protection, conflict resolution, and the preservation of culture and traditions.

→ Identification of materials for construction and crafts

This process resulted in the following table of "useful" trees for activities related to construction and crafting. It details, according to community knowledge and perception, the record of species in the territory, their uses, specific characteristics, and their risk status.perception, the record of species in the territory, their uses, specific characteristics, and their risk status.

	Use				
Tree	**Construction**	**Crafts**	**At risk**	**Notes and uses**	**Tipe of wood**
Altaquer	×		×	Very scarce, used for house construction and as fuel.	Fine
Amarillo	×		×	Used in roundwood form for constructing tendales and trails. Highly resistant to humidity.	Not fine
Barniz	×			Only suitable when mature, not when tender.	Commercial
Cedro (Red and pink)	×		×	Used for furniture making and wall construction.	Fine and Commercial
Chachajo	×		×	Disappeared, used for ancestral house construction.	Fine
Chalar (Palm)	×			Not sold, its leaves used for roof construction, and its trunk for making railings on trails.	Fine
Chaldé	×			Used for making baskets and weavings.	Fine
Chamil (Palm)	×		×	Edible heart	Fine and Commercial
Chanul				Used as a structural element in traditional constructions.	Commercial

	Use				
Tree	**Construction**	**Crafts**	**At risk**	**Notes and uses**	**Tipe of wood**
Guadua / Guadúa				Used as a structural element. Its "curing" process is complicated and time-consuming.	Commercial
Chapil (Palm)		×	×	The cogollo is edible.	
Chilandé		×	×	Used for making baskets and weavings.	Commercial
Cunguán (Ajicillo)	×			Cannot be cut due to stones in the core; cannot get wet.	Fine
Corocillo	×			Used as a structural element.	Fine and Commercial
Corozo	×		×	Used as a structural element and for wall construction.	Fine and Commercial
Cosedera Black		×		Used for making baskets (higra).	Commercial
Cosedera White		×		Used for making baskets (higra).	Commercial
Cosedera S. Miguel		×	×	Used for making baskets (higra).	Commercial
Cuesbite			×	Very scarce.	Fine
Guabo	×	×	×	Utilizada para hacer canastos (higra), bejuco, escaso.	No Commercial
Guayabillo	×		×	Very scarce. Traditionally used for beams in trapiches (sugar mills).	Fine
Gualte / Chonta	×		×	Used for constructing railings, floors, and structural elements of ancestral houses; its bark was used for making mattresses.	Fine

	Use				
Tree	**Construction**	**Crafts**	**At risk**	**Notes and uses**	**Tipe of wood**
Helechos	×	×		Scarce, traditionally used as pillars.	
Hoja bijao		×	×	Used for roofs of traditional homes.	No Commercial
Hoja de Tía		×		Used for making wraps and tamales.	No Commercial
Inguanul	×			Traditionally used for making arrows for hunting.	Fine
Isindé	×			Its bark is used for making ties.	No Commercial
Jigra Caspe	×		×	Heavy wood.	Fine and Commercial
Juan Quereme		×	×	Used for making baskets and weavings.	Fine
Malde	×			Used for constructing structural elements of houses.	Fine and Commercial
Mancharopa	×			Used as fuel.	Commercial (firewood)
María	×		×	Rough wood, used in arched form.	Not fine
Motilón	×			Used as a structural element when mature and well-dried.	Fine and Commercial
Palealte	×			Used for wall construction.	Fine and Commercial
Palmito (hoja)	×			Not sold; the cogollo is used for making brooms, and the leaves for roof construction.	
Piaste	×		×	Used for firewood and floorboards.	Fine and Commercial

	Use				
Tree	Construction	Crafts	At risk	Notes and uses	Tipe of wood
Piguantís		×		Used for making wraps and tamales.	No Commercial
Palmito (leaf)		×	×	Used for weaving backpacks, sewing hats, and mending clothes.	Commercial
Pulgande	×			Used as a structural element and for wall construction.	Fine and Commercial
Tetera		×		Used for making hats, weavings, and backpacks (higras).	Commercial
Usmillo	×			Used for extracting boards or square wood sections.	Fine and Commercial
Yaré		×	×	Used for making baskets and weavings.	Fine
Yaré				Used as fuel.	

The study, analysis, and subsequent use of vernacular materials, locally sourced and traditionally employed by communities, contribute to the sustainability, environmental adaptation, and durability of infrastructure projects. Their utilization can also promote the preservation of culture and traditions and contribute to the strengthening of local economies.

Discussion on environmental transformations

This discussion, complementary to the tree recognition activity, aimed to encourage participants to reflect on the impacts and changes in the ecosystem.

They identified that climate transformations in RNLP have been experienced in different ways:

1. **Variability:** Uncertainty about the timing of summer/winter seasons, affecting the timing and outcomes of crops in the community.

2. **Changes:** More extreme seasons: heavy rainfall, leading to landslides and creek overflows, contrasting with intense heatwaves that quickly dry up certain water sources.

   "In the Awá village, we have observed changes in the weather because it has rained during the harvest months, preventing us from obtaining good crops such as corn and beans. Due to rainfall, there have also been avalanches." ((Silvio Daniel Guanga, 32 years old).

   "The climate is no longer predictable: the summer and winter seasons do not align with other times. Temperatures have varied greatly. The minimum temperatures from the 80s are no longer recorded." (Guillermo Cantilla F., 70 years old)

They observe that traditionally practiced activities and vernacular architecture have been affected:

3. **Variability and climate changes:** crop damage.

4. **Deforestation:** eduction in available materials for construction and crafts.

5. **Change in traditions/construction techniques:** variations in traditional Awá housing and infrastructure construction techniques, increased use of materials like cement and zinc.

   "We have been affected by deforestation; we no longer find the wood to build our houses. It has also affected our crop yields." (Irene Caicedo Guanga, 32 years old)

   "In the Awá village, houses used to be built with materials from the territory. But now, the times have changed, and houses are constructed with zinc because it lasts longer." (Yeferson Ortiz, 31 years old)

Module 2

Planning

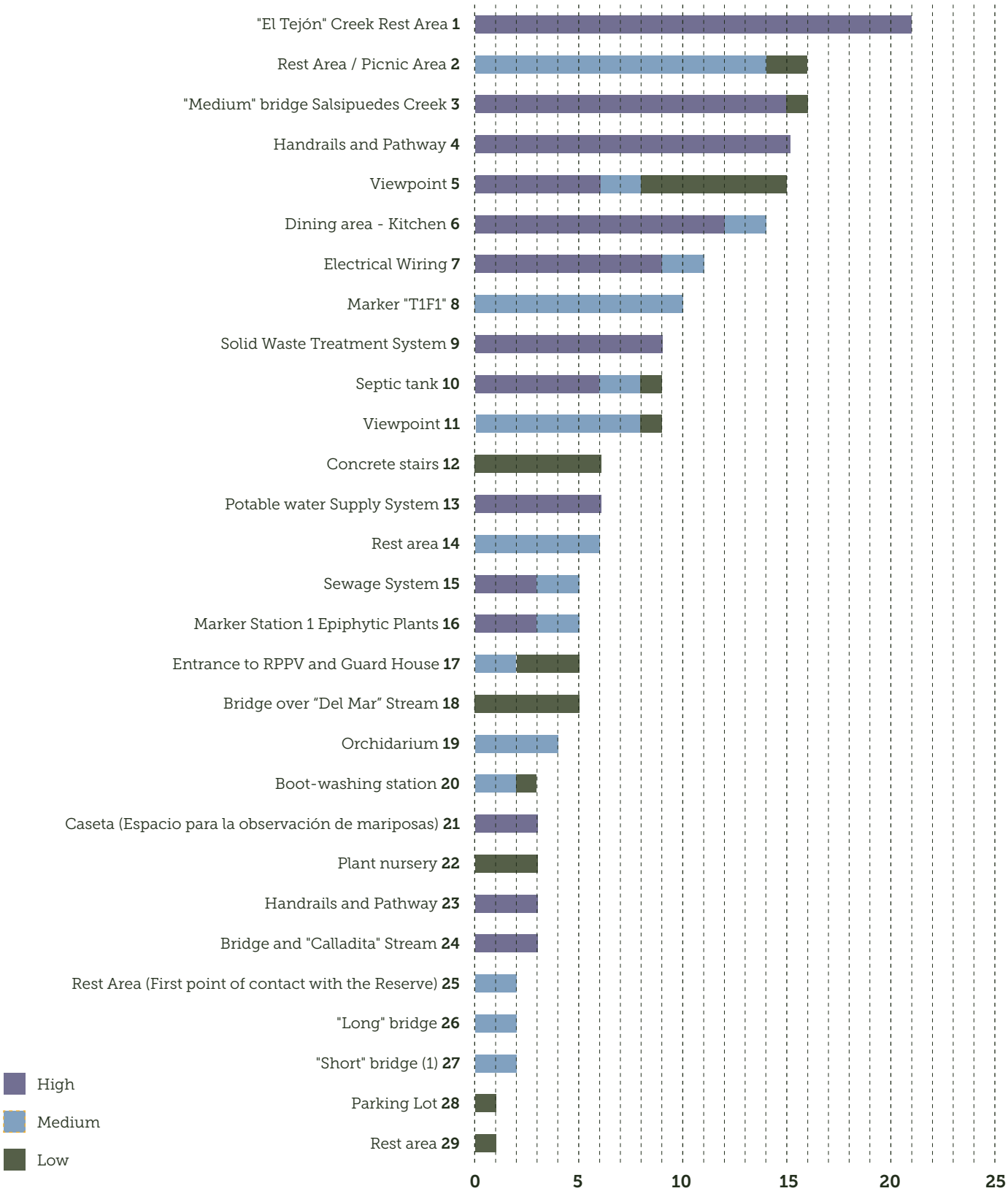
Infrastructure prioritization

The prioritization of identified infrastructures was carried out through a voting process based on the level of urgency. The following are the overall results.

2 **2** Ingreso a Centro Administrativo
3 Centro Cultural
28 **4** Parqueadero
22 **5** Vivero
25 **6** Descansadero y Letrero ingreso RNLP
11 **7** Mirador
16 **8** Marcador estación plantas epífitas
9 Hojas de "Tía" y "Sarapanga"
29 **10** Descansadero
11 Inicio sendero "Don Diego"
4 **12** Barandas / camino
8 **13** Marcador "T1F1"
23 **14** Escaleras / barandas
15 Escaleras
16 Árbol de Gualte
18 Letrero "El Tejón"
19 **19** Orquideario
26 **20** Puente "largo" (1)
27 **21** Puente "corto" (1)
22 División de caminos ("El Tejón" y Centro Científico")
23 Puente "corto" (2)
24 Puente "corto" (3)
25 Carbón
26 Bifurcación de caminos
3 **27** Puente "mediano"
28 Bifurcación de caminos
1 **29** Descansadero y quebrada "El Tejón"
30 Letrero "El Hondón"
17 **32** Ingreso a RPPV y Caseta guardia
33 Quebrada "Dulce"
18 **34** Puente quebrada "del Mar"
35 El "Gualtal"
14 **36** Descansadero
24 **37** Puente quebrada "Calladita"
5 **38** Mirador

At the Administrative Center, you can find the infrastructures corresponding to the items A. B. C. D. E. F. G. H. I. J. K. L. M. N. O.

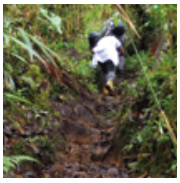
Infrastructure Prioritization



The order of the Finel prioritization was the result of comparing and organizing the results, taking into account the total prioritization score.

Prioritization Order	No.	Photo	Infrastructure Name	Type of Intervention	Puntaje Total Priorización	Notes
1	29		"El Tejón" Creek Rest Area	Reconstruction	21	• Rebuild rest area (most frequently visited route). • Include signage.
2	02		Rest Area / Picnic Area	Improvement	16	• Add equipment and improve infrastructure (base and pillars).
3	27		"Medium" bridge Salsipuedes Creek	Improvement	16	• Install railings. • Replace with concrete tiles.
4	12		Handrails and Pathway	Improvement	15	• Construct railings and stairs.
5	38		Viewpoint	New construction	15	• Design and build rest area - viewpoint. • Include signage.
6	a		Dining area - Kitchen	Improvement	14	• Conceal gas cylinders located against the back wall of the kitchen. • Create a mural.
7	n		Electrical Wiring	New construction	11	• Review the internal electrical installation network. • Replace external electrical wiring with rubber-coated cables.

8	13		Marker "T1F1"	Reconstruction	10	• Include signage.
9	l		Solid Waste Treatment System	New construction	9	• Improve waste classification and disposal. • Implement a waste collection system with easily accessible points for visitors.
10	m		Septic tank	Improvement	9	• Perform regular maintenance.
11	7		Viewpoint	New construction	9	• Conduct soil studies to verify if it is a risk area (landslides due to rain). Propose 2 phases, beautify the existing one and build a new one in the future.
12	c'		Concrete stairs	Improvement	6	• Make the stairs slip-resistant. Applies to all stairs in the Administrative Center.
13	o		Potable water Supply System	Improvement	6	• Review and improve the system to ensure continuity and optimal service during periods of extreme rainfall and drought.
14	36		Rest area	Improvement	6	• Construct access stairs to the rest area. • Improve furniture.
15	k		Sewage System	Improvement	5	• Review the separation and treatment of gray and black water.
16	8		Marker Station 1 Epiphytic Plants	Reconstruction	5	• Create a simple signage design to label trees and markers along the trails.

17	32		Entrance to RPPV and Guard House	Reconstruction	5	• Demolish the guard booth, redesign, and rebuild it. • Improve signage (include logo).
18	34		Bridge over "Del Mar" Stream	New construction	5	• Install signage with recommendations for vehicles.
19	19		Orchidarium	New construction	4	• Projected at the pre-project level.
20	a'		Boot-washing station	Improvement	3	• Improve the washing station and add an umbrella stand.
21	e		Caseta (Espacio para la observación de mariposas)	Reconstruction	3	
22	5		Plant nursery	Improvement	3	• Periodic maintenance, equipment, and improvement.
23	14		Handrails and Pathway	New construction	3	• Construct railings and stairs.
24	37		Bridge and "Calladita" Stream	New construction	3	• Work under the responsibility of the municipality.
25	6		Rest Area (First point of contact with the Reserve)	Reconstruction	2	• Include the logo of RNLP on the welcome sign. • Rebuild rest area.

26	20		"Long" bridge	Improvement	2	• Install railings. • Replace the flooring with concrete tiles.
27	21		"Short" bridge (1)	Reconstruction	2	• Reconstruct the bridge's concrete base structure.
28	4		Parking Lot	Improvement	1	• It is currently under construction.
29	10		Rest area	Reconstruction	1	• Include equipment and supplies.

It is important to ensure that interventions are as horizontal and open as possible, considering the type of activity and method of participation, so that during the process, the voices of the less powerful can comfortably express their opinions and vote without feeling intimidated by other group members or the influence of individuals holding traditional power roles within the community.

Module 3

Design

→ Analysis of vernacular architecture: typologies, techniques, and materials

The traditional Awá house, or "Yal" in Awa-pit, was characterized by its adaptation to the environment. Due to the humidity and frequent rainfall, the houses were elevated on stilts or posts made from tree fern trunks. These trunks allowed the free flow of water, providing protection and durability to the structure of the house. The space between the first-floor platform and the ground was often used as a storage area or for raising domestic animals. On the platform, there were two distinct spaces: the open social area known as "el afuera" (the outside) and the enclosed private space known as "el adentro" (the inside). In the open social area, there was a tulpa, a fire pit constructed with

three stones, which served as a gathering place for the family after daily activities.

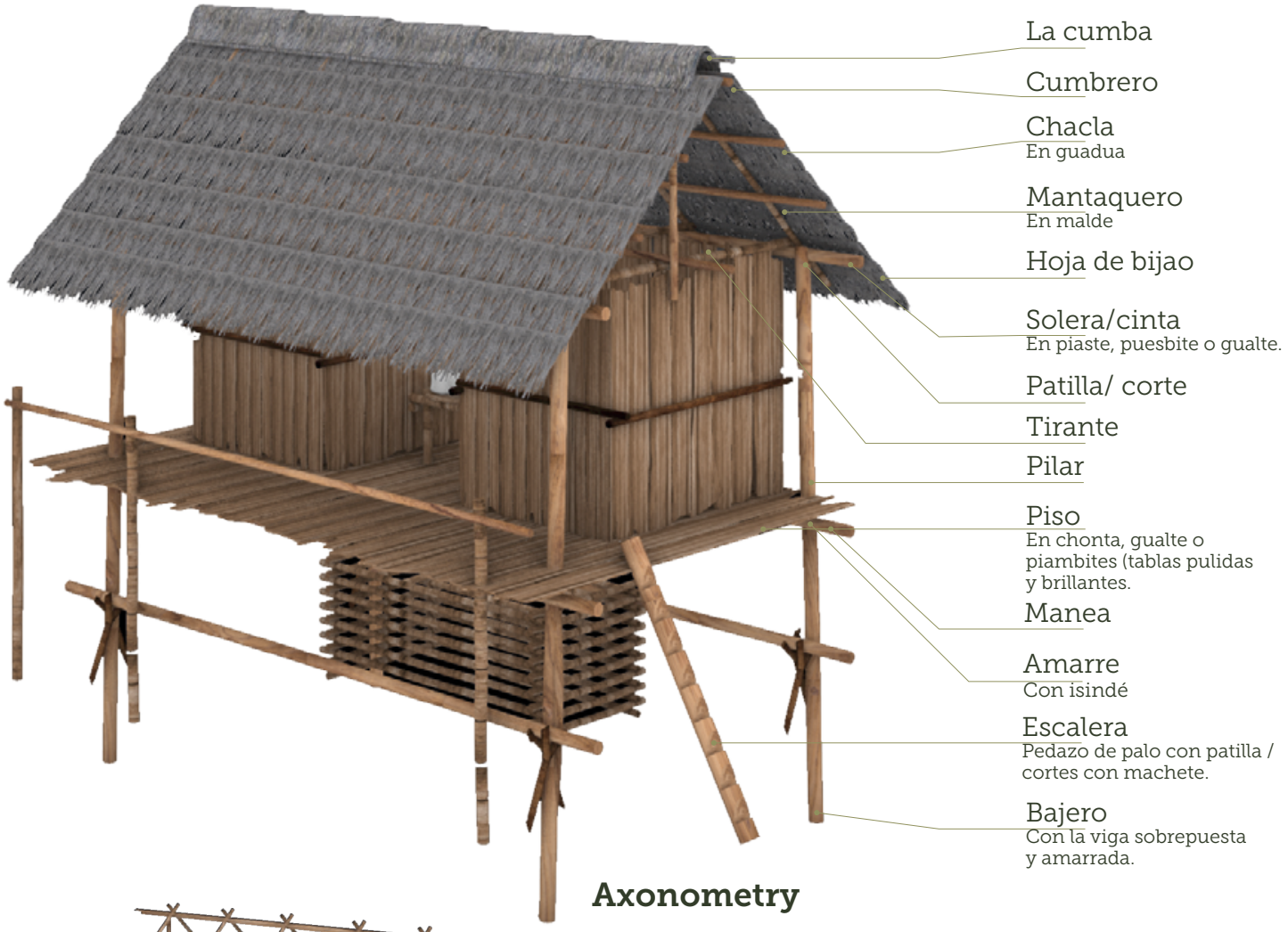
The floors and walls of the house were built with fine woods (malde, chacal, gualte) or guadua and chonta palm, which were cut and treated using ancestral knowledge to increase their resistance to moisture. The roof, always sloping and with two or four slopes, was constructed using wood for the structure and bijao leaves, which had to be frequently smoked to prevent deterioration. Finelly, the elements were joined using traditional joinery or ties, often using vines like Isindé.

"In the Awá community, the constructions were made of roundwoods, of chonta. Tree ferns were used for the pillars, and bijao leaves were used for the roof, which lasted a long time as long as it was smoked to preserve it. But nowadays, the constructions have been changing due to climate change, and we use fine woods and zinc roofs." (Silvio Daniel Guanga, 32 years old)

"We have lost a lot of our culture by replacing traditional houses with modern constructions. This has its pros and some drawbacks." (Libardo Ortiz, 55 years old)

During the process, the participants created two models of the traditional Awá house. The construction of these models served to conduct a detailed study of the structure and elements that compose the dwelling.

The traditional Awá house



Axonometry

Axonometric Structure

La cumba

Cumbrero

Chacla
En guadua

Mantaquero
En malde

Hoja de bijao

Solera/cinta
En piaste, puesbite o gualte.

Patilla/ corte

Tirante

Pilar

Piso
En chonta, gualte o piambites
(tablas pulidas y brillantes.

Tendales

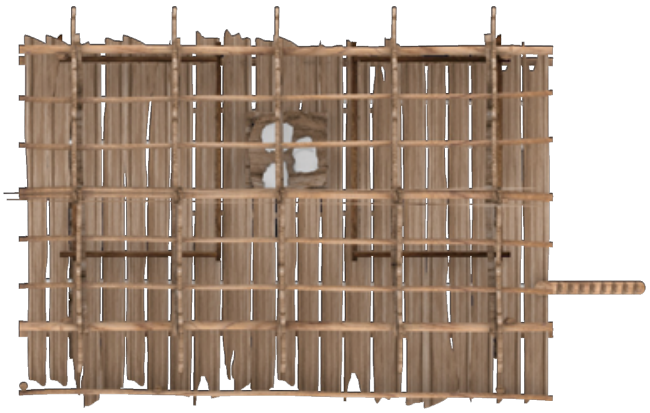
Manea

Amarre
Con isindé

Escalera
Pedazo de palo con patilla
/ cortes con machete.

Bajero
Con la viga sobrepuesta
y amarrada.

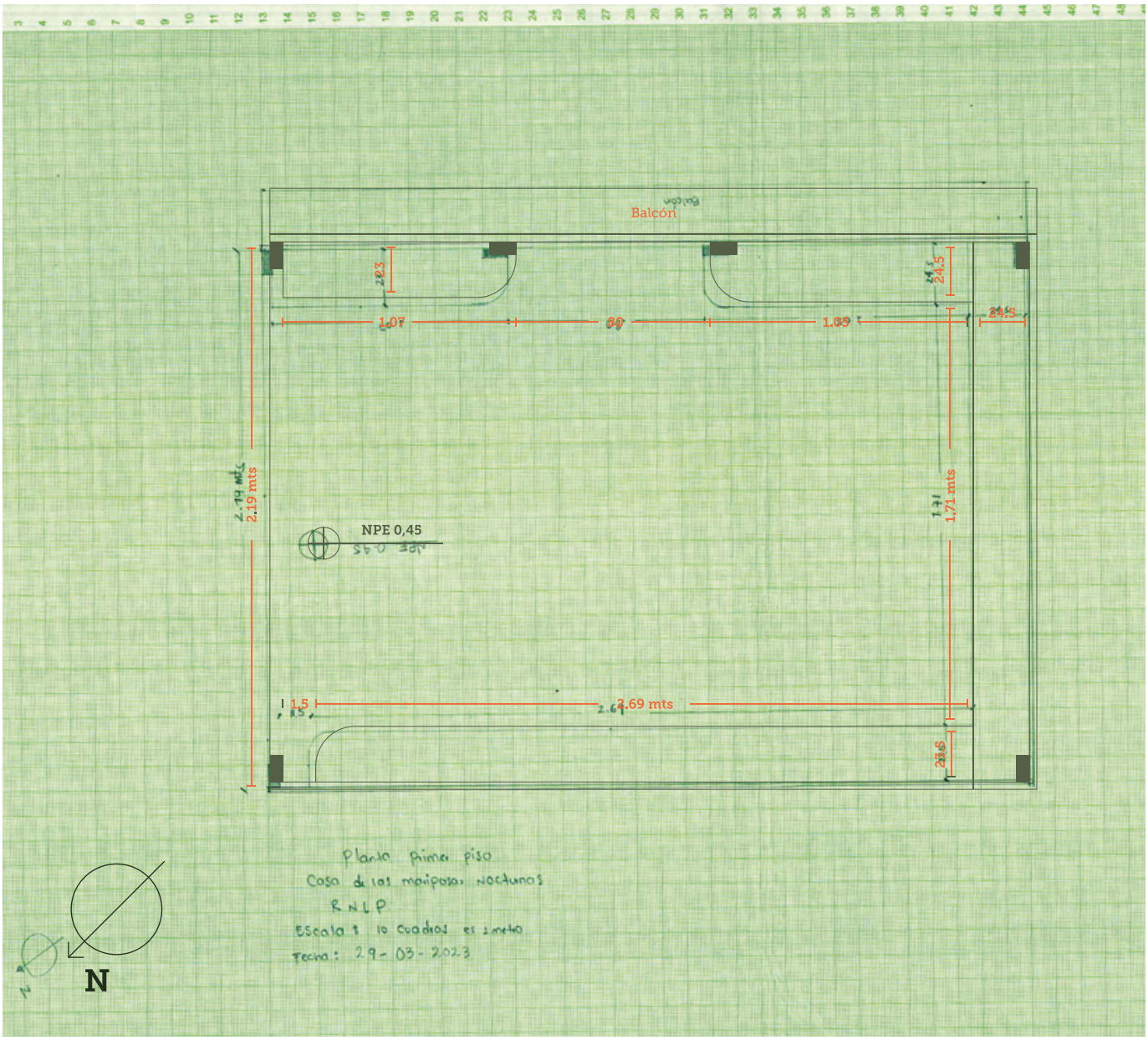
Frontal Elevation

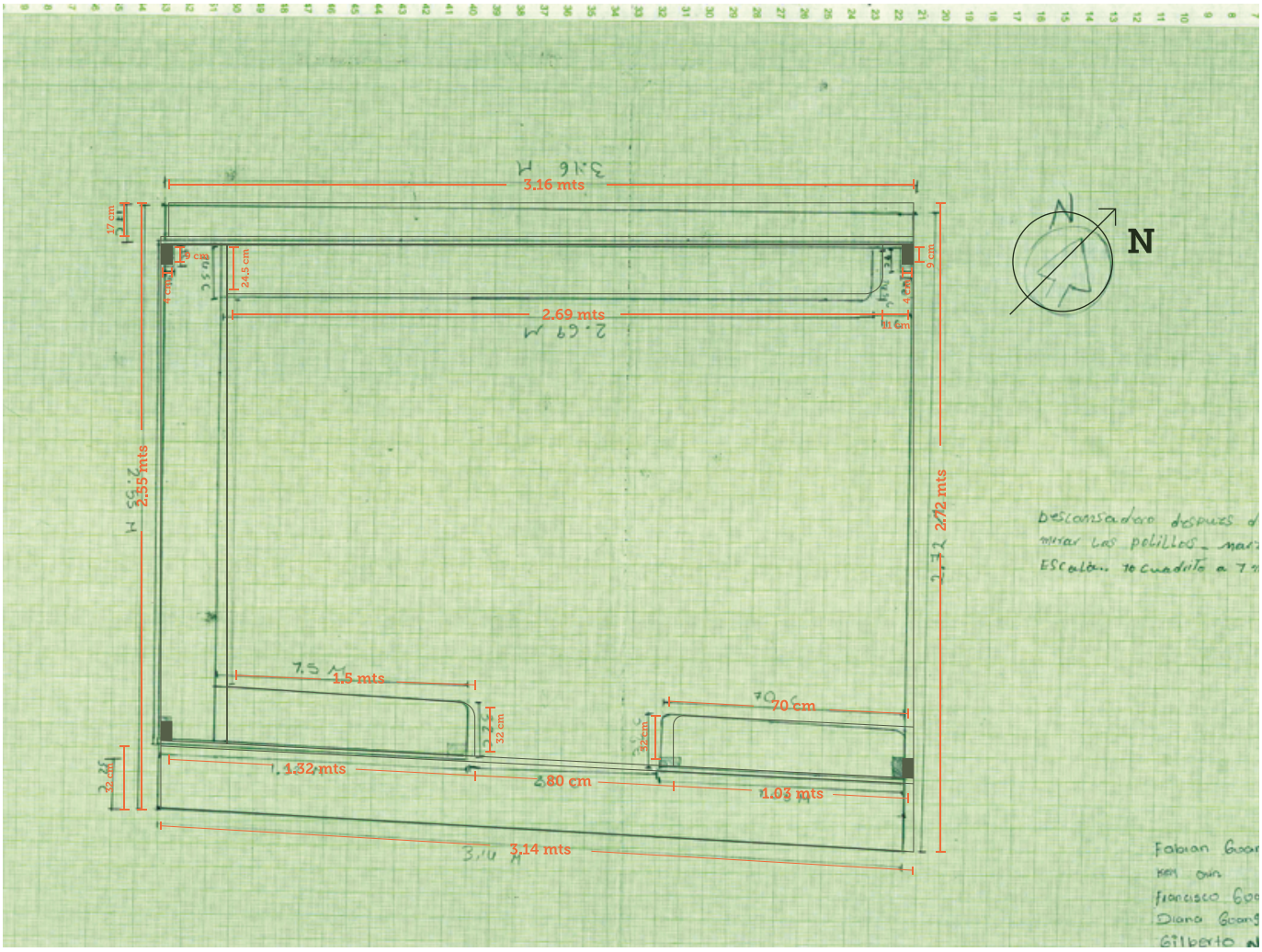


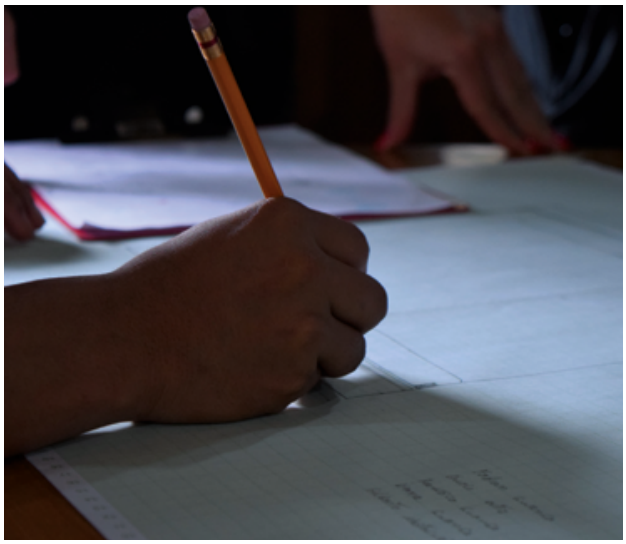
Floor Plan

Architectural representation and floor plans

During the practical part of the Blueprint Interpretation workshop, a small and simple structure (Butterfly Observation Booth) was chosen to measure and draw its floor plan.




3.16 mts
2.69 mts
2.35 mts
2.72 mts
1.5 mts
70 cm
1.32 mts
80 cm
1.03 mts
3.14 mts
N



Architectural Design

Based on the work carried out between the Noddo team and the RPPV participants, three relevant infrastructure typologies for the TCyN project development were selected (stairs, bridges, and rest areas). Three design proposals were created for each typology, which were then presented, discussed, and modified together with the participants, highlighting the advantages and disadvantages of each design. The infrastructure was designed considering the analysis of available assets in the reserve and the traditional Awá architecture studied in previous modules.

The proposals were presented through models with interchangeable parts that we assembled as a group, discussing each part or element. The models were constructed using materials that closely resembled the actual infrastructure once built.

Stairs:

1. **Concrete 1 (downward)**



2. **Concrete 1 (upward)**



3. **Solid Wood Plank**



4. **Roundwood**



No.	Type	Advantages +	Disadvantages -	Notes
1	Concrete 1 (downward)	Durable material.	Heavy (difficult to transport if prefabricated, can only be taken to nearby and easily accessible sites). For on-site fabrication: requires thorough leveling of the terrain, a dry working area, and transportation of materials to the location.	• The idea of adding sides to the prefabricated steps was discussed, but they might still have an issue of water pooling even if filled with gravel.
2	Concrete 1 (upward)	Durable material.	Requires bush hammering or grooving as they can become very smooth and slippery when wet. They require a lot of maintenance, or a kind of "moss" starts growing on them due to moisture. Thorough leveling of the terrain is necessary.	
3	Solid Wood Plank	If made with good wood, such as Chanul or Guayacán, they would have excellent resistance and durability. They can be fabricated on-site, and transporting the wood would not be complicated. They are easier to adapt to the terrain and its slopes.	There might be water pooling issues, which is why considering perforations on the riser and the retaining sides was suggested. If the wood is not of good quality, they may need constant replacement or change.	• There hasn't been a reforestation or tree planting process in RNLP.
4	Roundwood	If made with good wood, such as Chalar, they would have excellent resistance and durability.	If the wood is not of good quality, they may need constant replacement or change.	• There hasn't been a reforestation or tree planting process in RNLP.

Bridges:

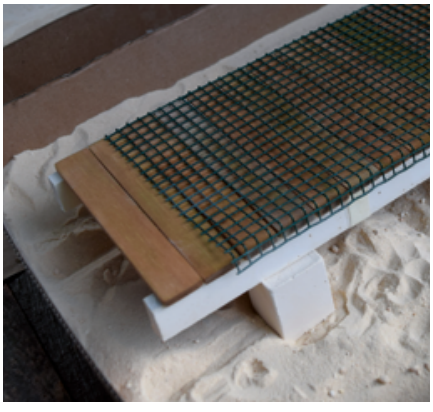
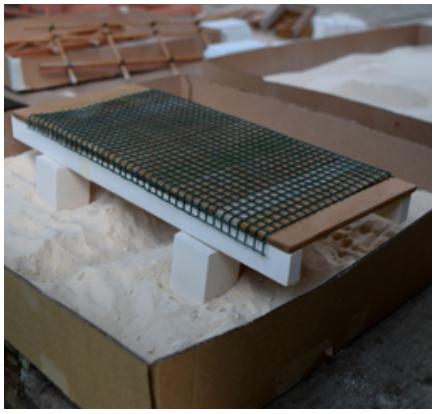
1. **Smooth Concrete + Mesh**



2. **Brushed Concrete**



3. **Wooden Planks + Mesh**

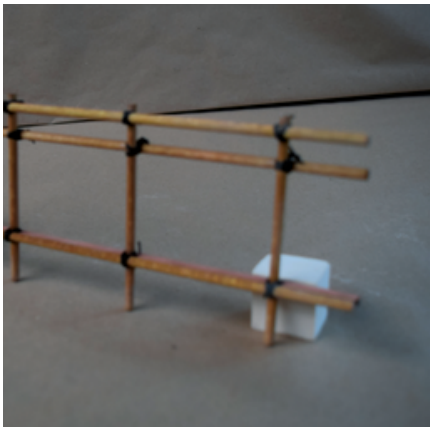
No.	Type	Advantages +	Disadvantages -	Notes
1	Smooth Concrete + Mesh	Concrete structure (columns and beams): stronger and more durable.	Must include mesh, or the concrete tiles would be very slippery.	• The concrete tiles should be spaced to prevent water pooling.
2	Brushed Concrete	Concrete structure (columns and beams): stronger and more durable.	The brushing or brooming should be coarse to prevent the tiles from being slippery. They can also be grooved.	
3	Wooden Planks + Mesh	Concrete structure (columns and beams): stronger and more durable. It is aesthetically pleasing and more cost-effective.	If the wood is not of good quality, they may need constant replacement or change. To protect the wood, it may be necessary to construct some kind of covering.	

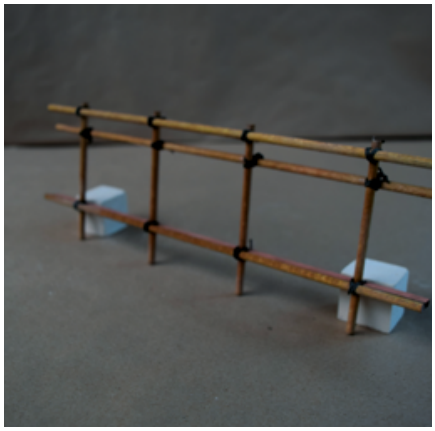
Handrailings:

1. **Straight Verticals**

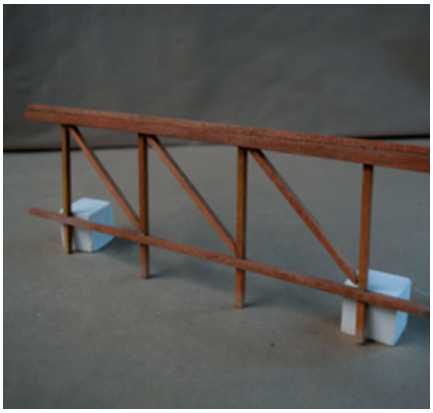
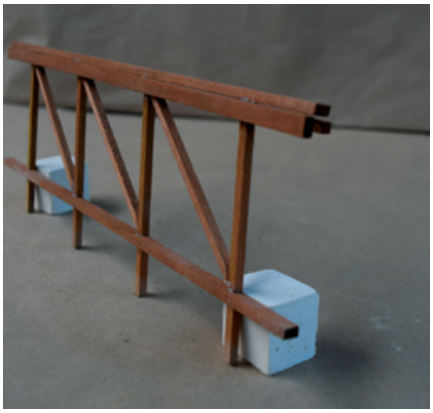
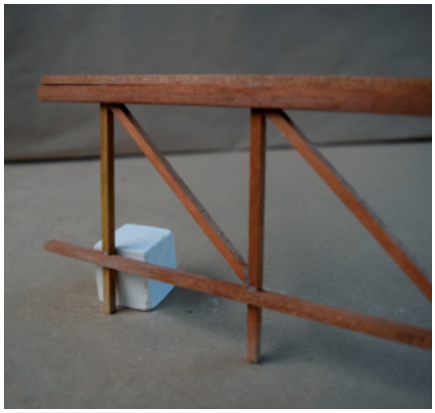


2. **Simple, Double Handrail**





3. **Diagonal Double Handrail**

No.	Type	Advantages +	Disadvantages -	Notes
1	Straight Verticals		Requires much more material and therefore more expenses. A handrail with vertical bars at that frequency is not necessary.	• The idea of using galvanized pipes for the handrails was discussed.
2	Simple, Double Handrail	They could be crafted using woven vines, resembling traditional constructions.	Consider whether an additional horizontal tube/ element should be added lower down for added protection.	
3	Diagonal Double Handrail	Diagonals are optimal for providing good protection on the railings without using excessive material.	Consider whether an additional horizontal tube/ element should be added lower down for added protection.	

The activity proved to be valuable for its clarity, generating active participation, contributing to autonomous technical decision-making, sparking enthusiasm, and allowing members of RNLP to strengthen their recognition of ancestral or traditional Awa typologies, techniques, and construction materials. It also facilitated visualization, interaction, and discussion regarding the potential "construction projects" and their various alternatives.

Rest areas:

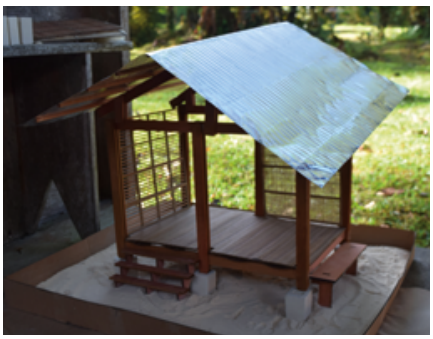
1. **Single-slope Roof**



2. **Double-slope Roof 1**



3. **Double-slope Roof 2**



4. **Four-slope Roof**



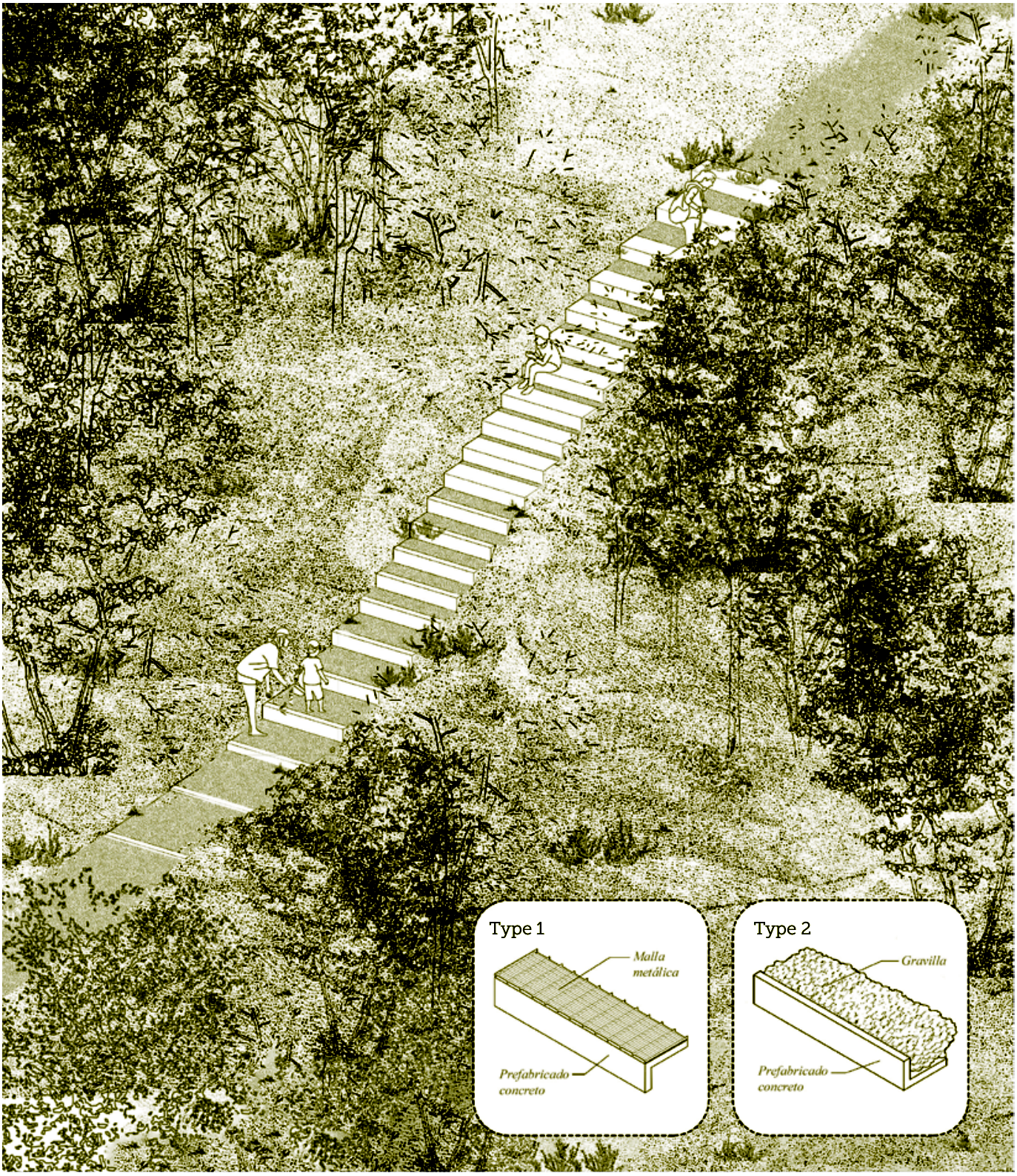
No.	Type	Advantages +	Disadvantages -	Notes
1	Single-slope Roof	The single-slope roof is more economical, easy, and quick to construct. It provides ample natural light. It directs/frames views. Sawn wood or planks make it easy to attach to the floor and supports - can be purchased or cut to the same size.	Water can enter through the "open" sides of the roof when it rains at an angle. The structural elements for the roof are longer, making it more difficult to find wood of those lengths.	• The placement of all rest areas should be determined later, considering the environment, views, needs, and specific sun exposure of each location. • In all designs, the eaves should be wide and long to prevent rain from entering the interior of the structure. • The furniture should be movable inside the reserve's rest areas and fixed in the public area (Route 3: Las Cruces). • There should be waste collection points in all rest areas. • The bases of the rest areas should be made of concrete to isolate the wood from the ground and prevent water pooling from damaging it.
2	Double-slope Roof 1	This type of roof is relatively economical, easy, and quick to construct. Sawn wood or planks make it easy to attach to the floor and supports - can be purchased or cut to the same size.	Water can enter through the "open" sides of the roof when it rains at an angle.	
3	Double-slope Roof 2	This type of roof is relatively economical, easy, and quick to construct. Sawn wood or planks make it easy to attach to the floor and supports - can be purchased or cut to the same size.	Water can enter through the "open" sides of the roof when it rains at an angle.	
4	Four-slope Roof	The four-slope roof is more expensive and complex to construct. Roundwood is traditionally used and was well-liked by the group.	Attaching roundwood to the floor and supports is more challenging. It is difficult to find roundwood of the same size.	

Definition of Materials

The definition of materials revolved around the most commonly used materials in the reserve today, concrete, and wood.

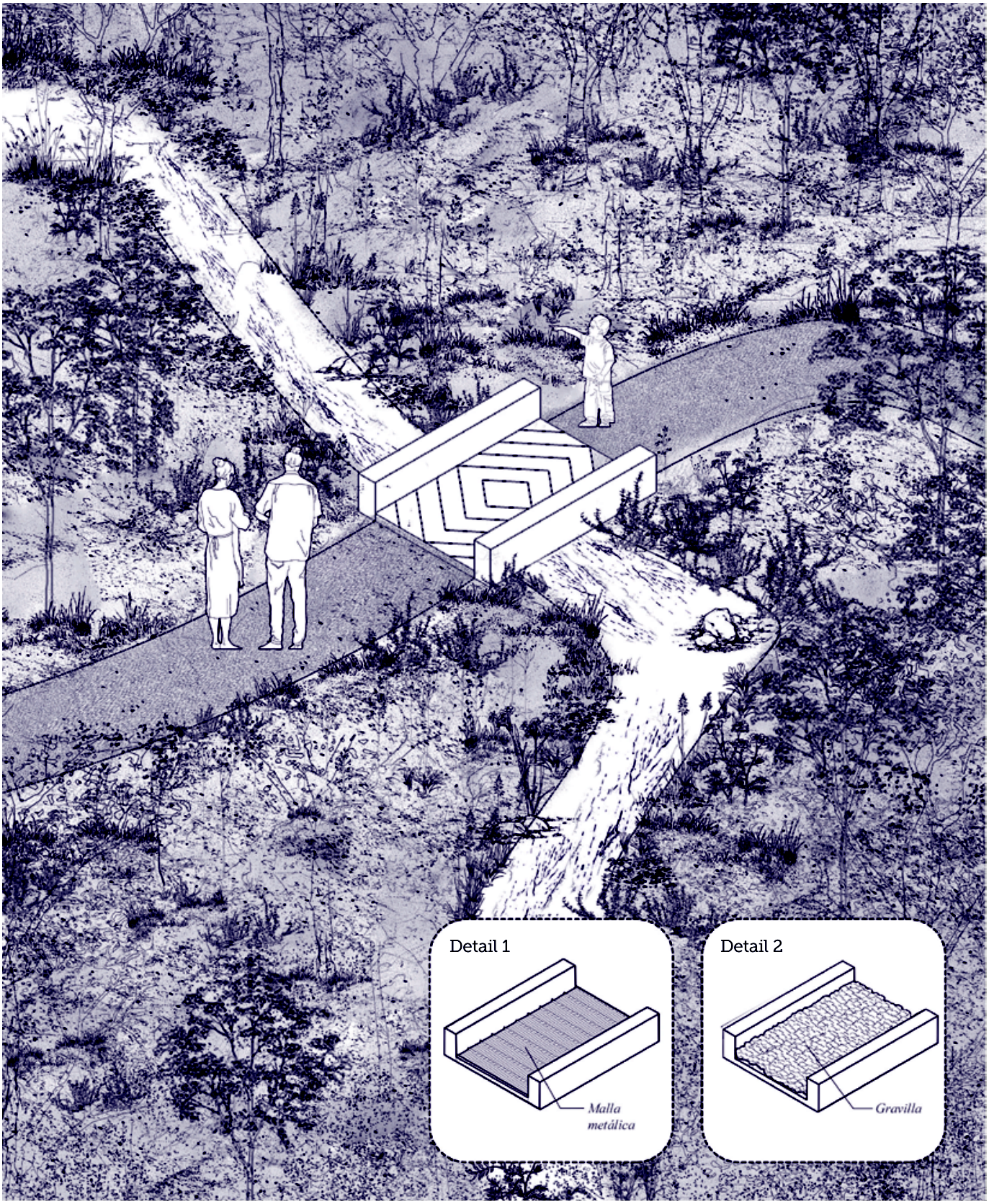
Material	Advantages +	Disadvantages -	Notes
Wood	• Aesthetically pleasing. • Respects and continues the construction traditions of the Awá culture. • Leaves no trace in case of demolition or change. • Attractive to tourists.	• Reforestation wood should always be used. • If not treated correctly, it can quickly become damaged and require replacement. • Its durability depends on proper maintenance and protection against water and rain.	• It is recommended to start a seed collection and reforestation project to continue caring for the forests while respectfully utilizing timber and non-timber trees.
Concrete	• Very strong and durable.	• Non-slip finishes should be applied to prevent surfaces from becoming slippery. • It may require the use of metal mesh to prevent surfaces from becoming slippery. • Transporting and on-site casting of the material can be complicated.	• It is recommended to use it with caution and limit its use as much as possible since, despite its effectiveness, it is not native to the environment and traditional culture.

Concrete stairs

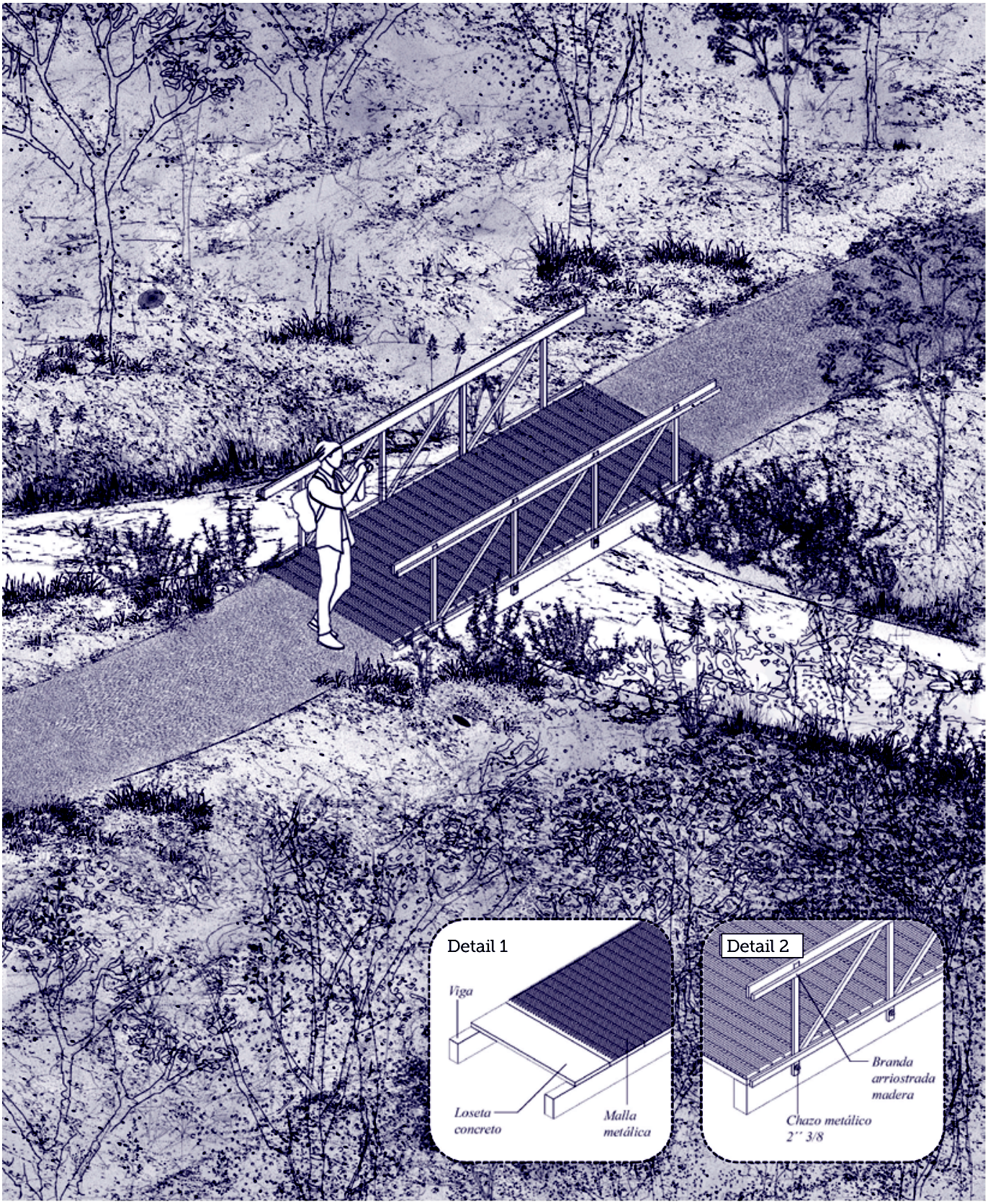


Wooden stairs

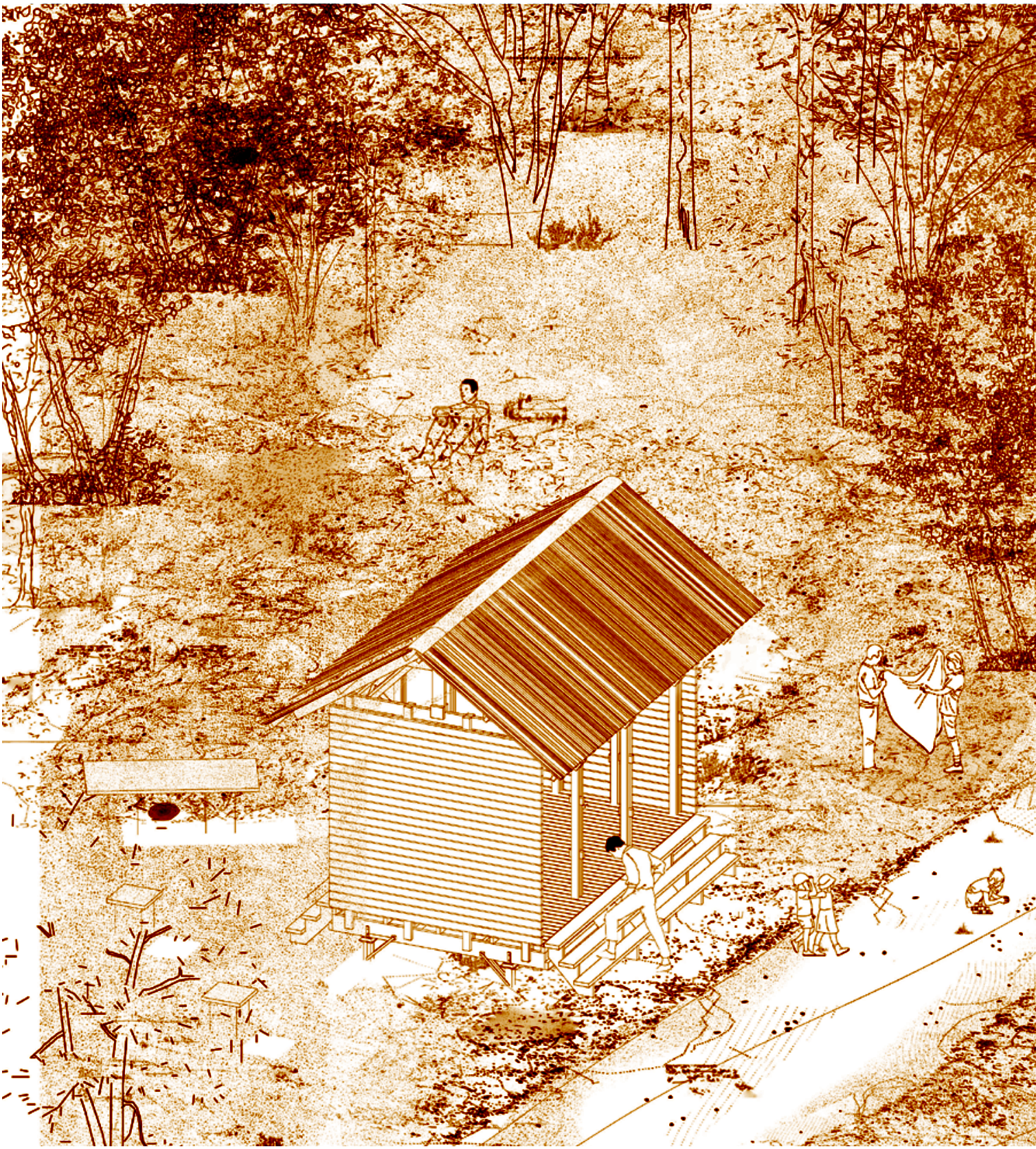
Bridge distances less than two meters



Bridge distances between 3.5 and 4 meters

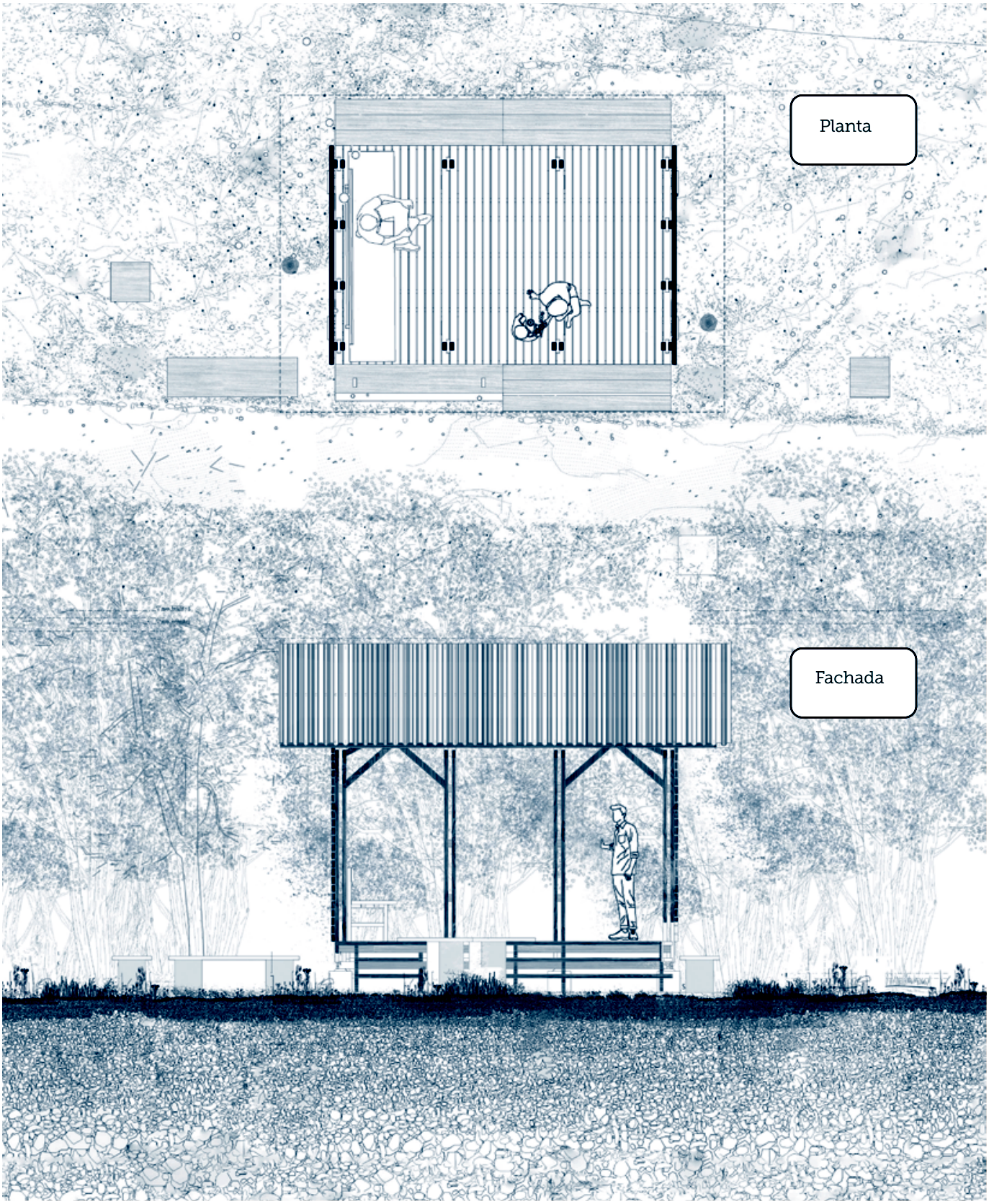


Rest areas



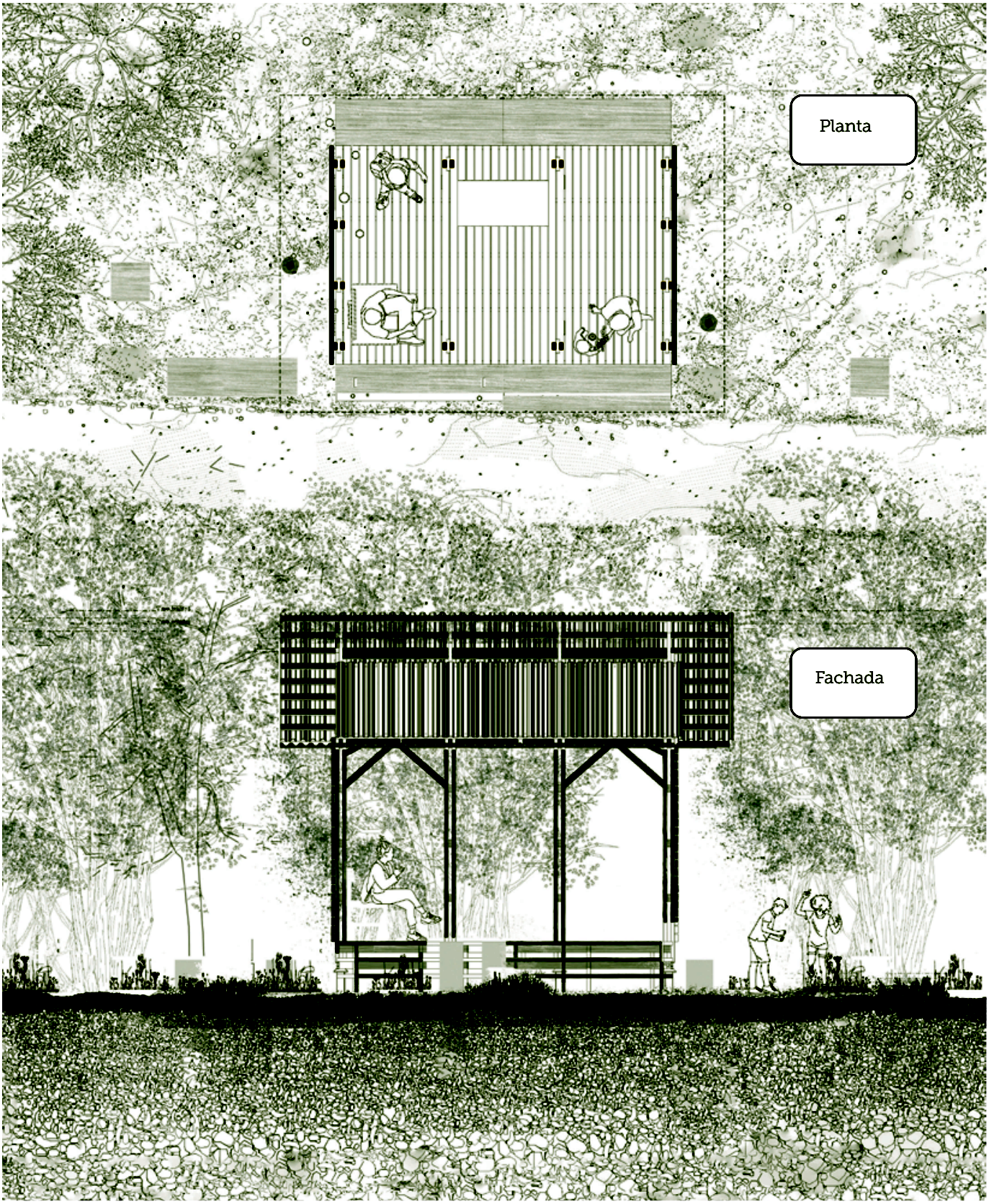

RESERVA NATURAL
LA PLANADA

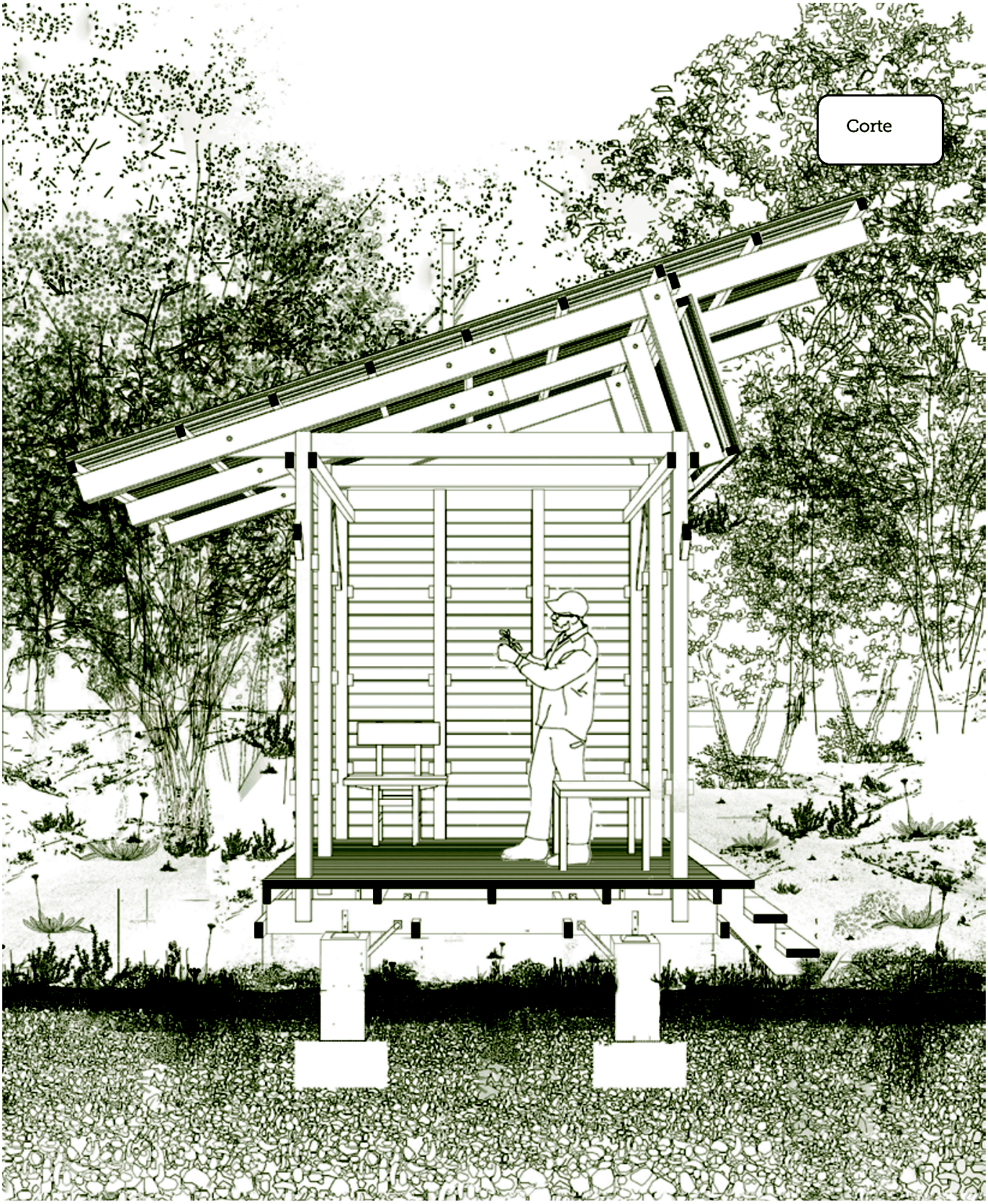
Rest area double-slope Roof




Corte

Rest area single-slope Roof




Corte

Module 4

Project Preparation

As specified in the previous module, within the scope of this project, architectural and structural designs were developed for resting areas, bridges shorter than 4.5 meters, trails, and stairs.

Due to the scope, budgets and work schedules were not included. It is expected that in a later stage, the community will be able to create them in order to have complete information that allows for more elements to complement the prioritization of the infrastructures and subsequent execution of the work.

Recommendations

Regarding the territory, ecosystem, and built environment:

- Open new spaces for participation that allow for understanding, reflecting, and discussing environmental transformations and consequently making informed collective decisions that contribute to the preservation of the environment and the generation of strategies for ecosystem protection and climate change adaptation.

- Work on the construction of an action plan and risk mitigation with the respective entities, seeking to prevent disasters and contingencies caused by heavy rains and landslides.

- Continue to encourage the development and transmission of knowledge about the reserve and its available resources, in order to take care of them, make the most of them, and promote greater community ownership of the territory.

- Implement seed collection and the establishment of a seed bank to facilitate vegetation maintenance and recovery.

- Promote the planting of endangered species, both timber and non-timber, which contribute to the construction of infrastructure and the production of crafts.

Regarding the built environment and the consolidation of the tourist offer:

- When carrying out interventions in infrastructure, whether new or for improvement, strive to respect and readapt traditional techniques, seeking to preserve traditional architecture while also constructing durable and resistant infrastructure.

- Develop an investment and resource management plan for the construction of infrastructure that already has architectural designs (such as the Cultural Center and small infrastructures designed within the scope of this project) and the improvement of prioritized infrastructures. This is to provide a complete infrastructure offer that ensures safety, comfort, and enjoyment.

- Create a management plan for the provision, supply, and maintenance of public services:
    - Infrastructure for the treatment of sewage: artificial wetlands, septic tanks.
    - Infrastructure for the distribution of drinking water.
    - Infrastructure for handling rainwater.
    - Complementary infrastructure to the electrical grid. Generate more routes to achieve broader ownership and control of the entire territory of the RNLP.

To continue strengthening parity of roles and Awá culture in the TCyN project:

- Continue promoting the participation of women and men of all ages in spaces for training, learning, and capacity building that contribute to the transformation of traditional dynamics.
- Strengthen the capacities of men and women around the TCyN project, based on interests raised in the "Saberes y Oficios" (Knowledge and Trades) activities, extended to more members of the community of the reserve.
- Include courses on women's rights in the training agenda, also studying the provisions of indigenous legislation.
- Strengthen actions aimed at the recovery of Awapit (the Awá language).
- Care for, value, and promote the new roles and spaces acquired by women in the processes of territorial appropriation, their participation in the Indigenous Guard, and the TCyN project.

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