PLAN VIVO PROJECT IDEA NOTE

Strengthening the resilience of Peru´s largest mangrove forest

Tumbes

Version 1.3
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Developed by:

CONMANOPE (Consorcio Manglares del Noroeste del Perú)

Contents

Overview

Project Title:	Strengthening the resilience of Peru´s largest mangrove forest
Location:	Peru, Tumbes, Zarumilla Province
Project Coordinator:	CONMANOPE (Consorcio Manglares del Noroeste del Perú) Representative: Henrry Preciado Role: Technical Manager Email: hpreciado@consorciomanglares.pe Phone: +51 943092764
Project Area:	5213.37 hectares, with expansion potential
Project Participants:	CONMANOPE is the owner of the management contract of the Natural Protected Area: "Santuario Nacional Los Manglares de Tumbes". It is the consequence of a years-long participatory process in which community-based associations made a joint effort to lead the protection and sustainable usage of the Tumbes´ mangrove ecosystem. It is composed of 6 fishers associations: • AEXAPROH "Los Tumpis", representing 45 households • ACP "El Bendito", representing 29 households • ACODESOM "El Bendito", representing 24 households • ASEPROHI "San Pedro", representing 117 households • ASEXTRHI "Nueva Esperanza", representing 55 households • Puerto Perú, representing 25 households These associations have been actively working to improve ecosystem management by: • Promoting a co-management scheme for conservation work and assuming the role of co-manager of the SNLMT since 2018 (it is the current holder of carbon and management rights of the SNLMT). • Promoting and achieving the legal constitution of the Environmental Conservation Area called "ACA Estero La Chepa" ("ACA1" hereinafter) in 2016. • Promoting and achieving the legal constitution of a second Environmental Conservation Area called "ACA Delta del Río Tumbes - Bahía de Puerto Pizarro" ("ACA2" hereinafter) in 2017. • Conducting conservation activities (MRV, restoration, patrolling, environmental education) at three areas: ACA1, ACA2 and the Natural Protected Area called "Santuario Nacional de los Manglares de Tumbes" ("The Sanctuary" or the "SNLMT" for short). • Promoting the constitution of a third ACA, which will potentially include 1,000 hectares from the Buffer Zone of the SNLMT and 2,000 hectares of contiguous territory. In general, CONMANOPE seeks to create multiple ACAs to promote conservation and sustainable use of ecosystem services throughout the Tumbes Mangrove Ecosystem. In line with the first bullet (promoting a co-management scheme), CONMANOPE is currently promoting the set-up of a co- management scheme for the 2 ACAs, which are currently under the administration of the Corrales District Town Hall (for ACA1) and the Tumbes Province Town Hall (ACA2). It is expected that the government institutions make a public

<table>
<tr><td></td><td>call to designate a co-manager for each of the ACAs prior to the end of 2023. The chosen co-managers must be either a community-based association or a consortium composed of two or more of this kind of organisations. Therefore, the selected co-managers will also be project participants in charge of these two project areas.

In addition, there´s a project expansion potential (also inside the Tumbes´ mangrove ecosystem) involving private landowners. To be part of this project, landowners must be interested and willing to commit to the resulting conservation goals and activities. They shall separate part of their land for mangrove ecosystem restoration. These landowners are not members of CONMANOPE. A map which distinguishes those private lands (typically used for aquaculture production) from other water bodies and state-owned lands is included in this document.</td></tr>
<tr><td>Project Intervention(s):</td><td>• Intervention #1: Protection of the mangrove forest

To increase the frequency of patrolling and its forest coverage, as well as enhancing MRV activities (including sampling and satellite screening), at the SNLMT and the ACAs. This intervention will strengthen the protection efforts already made by CONMANOPE at those areas, considering that CONMANOPE achieved to set-up a co-management scheme for the SNLMT and was successful at promoting the constitution of the ACAs.

Prior work from CONMANOPE at those areas has proven to be successful. The following tables provide the total extension of each project area:

<table>
<tr><th>Project area</th><th>Extension</th></tr>
<tr><td>SNLMT</td><td>2972 ha</td></tr>
<tr><td>ACA1</td><td>1927.84 ha</td></tr>
<tr><td>ACA2</td><td>313.53 ha</td></tr>
</table>
Source: Legal documents of each protected areas´ constitution, available at: https://drive.google.com/drive/folders/150MnoShQ3xPUo-Q9oKGK8uaDZnia0btp?usp=drive_link

This intervention will include the development of specialized management tools to integrate CONMANOPE´s protection work throughout the project areas and to facilitate work with the community organisations elected as comanagers of ACA1 and ACA2. The management tools must be legally approved, too, which is why CONMANOPE is currently facilitating the constitution of an Integrated Management Unit, which will enable information and knowledge sharing, including the construction of an ecosystem grid view, useful to map out ecosystem threats and define strategic protection and restoration work. CONMANOPE is currently overseeing the establishment of another ACA spanning approximately 3000 hectares (to be determined). This ACA aims to encompass areas within the mangrove ecosystem that do not currently possess a designated conservation status.</td></tr>
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- **Intervention #2: Restoration at the ACAs**

The zones which require restoration inside both ACAs have been identified since the ACA´s constitution, accounting for 269.54 hectares in ACA1 and 28.06 hectares in ACA2. CONMANOPE and the to-be-defined ACA co- managers will conduct assisted natural regeneration activities to fully cover the ACAs´ restoration needs.

Apart from that, there are private landowners which hold aquaculture production rights inside the mangrove ecosystem, even at the SNLMT´s buffer zone. CONMANOPE will make communication efforts to convince some of those landowners to join the project and therefore make them separate a piece of their land to restore the mangrove forest (thus, expanding Intervention #2´s reach). In addition, landowners will be required to participate in Intervention #1, as protection activities will strengthen the broader community respect towards the richness and importance of the Tumbes mangrove ecosystem.
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<tr><td>Expected Benefits:</td><td>

Expected benefits are distinguished by project area (SNLMT, ACA1 and ACA2), excluding the potential benefits coming from of landowners which may join the project, as measuring them will highly depend on their individual decisions.

- **Carbon benefits**

This project considers the carbon stored by mangroves on the ground, above ground (leaves, branches) and below ground (roots) biomass, as well as their non-living biomass (dry leaves and wood). The estimates of carbon benefits are built considering a timeframe of 20 years, as this period is consistent with the time need for restored mangroves to reach maturity, and a conservative leakage potential loss of 2.5%. Moreover, the mangrove forest has different mangrove species, which have different carbon sequestration capacities as well. To that extent, estimates of carbon sequestration per mangrove individual distinguish between two species groups:

Species groups	Estimated carbon sequestration capacity
Group 1: *Rhizophora mangle* *Rhizophora harrisonii*	490.36 Mg per hectare
Group 2: *Laguncularia racemosa* *Avicennia germinans* *Conocarpus Erectus*	207.14 Mg per hectare

Source: Morales (2022) available at: https://digi.usac.edu.gt/bvirtual/informes/puidi/INF-2021-60.pdf

Estimates are based on scientific field work conducted in a mangrove ecosystem in Guatemala. In the case of the second species groups, due to satellite image limitations, it is not possible to distinguish between the species, which have a different carbon sequestration
</td></tr>
</table>

capacity. Thus, an average of 207.14 Mg per hectare is used for this species group (*Laguncularia racemosa* and *Avicennia germinans* have a capacity of 142.88 and 271.4 Mg ha per hectare, respectively).

On the other hand, historical data provided by the Instituto Geofísico del Perú and ratified by the National Ministry of Environment (data available at: http://hdl.handle.net/20.500.12816/476) shows that, prior to the adoption of a shared management scheme (conducted both by a SERNANP public authority local delegation and a community-based organization as comanager, in this case, CONMANOPE, since 2018), deforestation has highly impacted both the SNLMT and its buffer zone, as follows:

Changes in ecosystem composition at the SNLMT		
Type	**Hectares in 1985**	**Hectares in 2014**
Rhizophora mangle	1432.44	1461.33
Avicennia germinans	106.2	78.12
Dry forest	209.97	201.15
Halophytic vegetation	168.57	45.63

Source: IGP (2014) available at: https://repositorio.igp.gob.pe/bitstream/handle/20.500.12816/476/Manglares_doc1.pdf?sequence=1&isAllowed=y

Changes in ecosystem composition at the SNLMT´s buffer zone		
Type	**Hectares in 1985**	**Hectares in 2014**
Mangrove forest	1719.99	1247.76
Dry forest	1353.15	739.26

Source: IGP (2014) available at: https://repositorio.igp.gob.pe/bitstream/handle/20.500.12816/476/Manglares_doc1.pdf?sequence=1&isAllowed=y

From that data we calculate the following rates:

- Total forest loss (both mangrove and dry forest lost) inside the SNLMT, in hectares: -0.016% compound annual rate.
- Total forest and vegetation loss (including halophytic vegetation) inside the SNLMT, in hectares: -0.244% compound annual rate.
- Total mangrove loss at the Buffer Zone, in hectares: -1.101% compound annual rate.
- Total forest loss at the Buffer Zone, in hectares: -1.492% compound annual rate.

These rates demonstrate that the Buffer Zone had absorbed most of the deforestation impact throughout nearly 30 years and continue doing so in the present. Nonetheless, the SNLMT has been deforested during those years and the people behind that loss don´t distinguish between the type of land they are jeopardizing, in other words, people who enter the SNLMT illegally to perform economic activities don´t care if the hectares they are taking belong to mangrove forest, to dry forest or other vegetated zones.

On the contrary, after the designation of CONMANOPE as comanager of the SNLMT, the mangrove coverage increased by 273.217 ha from 2014 to 2019, and the same occurred with the dry forest extension, which increased by 15.07 ha. Thus, not only the deforestation rate was stopped by installing co-management, but also the forest started recovering too.

Thanks to satellite image analysis (the latest available for each project area), the following mangrove forest extension estimates have been found:

Mangrove forest extension at the SNLMT	
Type	**Hectares in 2019**
Group 1	1497.20
Group 2	248.18

Mangrove forest extension at ACA1	
Type	**Hectares in 2021**
Group 1	254.03
Group 2	18.63

Mangrove forest extension at ACA2	
Type	**Hectares in 2021**
Group 1	1332.32
Group 2	108.06

Therefore, to calculate carbon sequestration that would be lost without CONMANOPE´s Intervention #1 (Protection) at the SNLMT, the total forest and vegetation loss rate at the SNLMT will be applied (-0.244%), as the Buffer Zone will still contribute to SNLMT´s protection. A net benefit of 36,474.31 MgC won't be lost at the SNLMT, as shown below:

SNLMT			
Mangrove forest type	**Hectares that could be lost in 20 years**	**Gross carbon that could be lost (Total of MgC sequestered)**	**Net carbon benefit (after 2.5% leakage)**
Group 1	71.30	34961.47	34087.43
Group 2	11.82	2448.08	2386.87
Total	**83.12**	**37409.55**	**36474.30**

To calculate carbon sequestration that would be lost without CONMANOPE´s Intervention #1 (Protection) at the ACAs, the total mangrove forest loss rate at the Buffer Zone will be applied (-1.101%), as the Buffer Zone only contributes to the SNLMT´s protection and the ACAs don´t have any kind of buffer zone around them. A net benefit of 24,870.23 MgC won't be lost at the ACA1, as shown below:

ACA1			
Mangrove forest type	**Hectares that could be lost in 20 years**	**Gross carbon that could be lost (Total of MgC sequestered)**	**Net carbon benefit (after 2.5% leakage)**
Group 1	50.46	24741.44	24122.90
Group 2	3.7	766.41	747.25
Total	**54.16**	**25507.85**	**24870.15**

In addition, a net benefit of 130,852.94 MgC won't be lost at the ACA2, calculated as follows:

ACA2			
Mangrove forest type	**Hectares that could be lost in 20 years**	**Gross carbon that could be lost (Total of MgC sequestered)**	**Net carbon benefit (after 2.5% leakage)**
Group 1	264.63	129762.30	126518.25
Group 2	3.7	4445.84	4334.69
Total	**54.16**	**134208.15**	**130852.94**

Apart from that, regarding Project Intervention #2 (Restoration), there´s a total of 297.604 hectares pending to be restored at those conservation areas. This represents an opportunity to store carbon, with a net benefit calculated at 92,976.64 MgC, as the table shows:

Mangrove forest type	**Proportion**	**Gross carbon to be sequestered (MgC)**	**Net carbon benefit (after 2.5% leakage)**
Group 1	40%	58373.24	56913.91
Group 2	60%	36987.42	36062.73
Total	**100%**	**95360.70**	**92976.64**

It is assumed that the full 297.604 hectares will be successfully regenerated by the end of the 20-year period, as CONMANOPE has achieved a similar result in a 4 times smaller period (273.217 ha from 2014 to 2019). It is assumed that, even though the ACAs do not have a Buffer Zone, CONMANOPE will achieve these results because of the additional time available to conduct this activity without compromising the protection activities at the ACAs.

- **Ecosystem benefits**

  The protection and restoration of the mangrove ecosystem will serve as a nursery habitat for diverse species, including:

  - Mangroves: *Rhizophora mangle*, *Rhizophora harrisonii*, *Laguncularia racemosa*, *Conocarpus erectus* and *Avicennia germinans*.
  - Reptiles: The *Crocodylus acutus*, categorized at critical danger (of extinction) by IUCN.

- Molluscs: *Cardisoma crassum*, *Ucides occidentalis*, *Anadara tuberculosa*, *Anadara similis*.

Birds: *Larus dominicanus*, *Rallus langirostris*, *Aramides axillaris*, *Buteogallus subtilis*, *Nyctanassa violaceus*, *Tigrisoma mexicanum*, *Eudocimus albus*, *Dendroica petechia*, *Quiscalus mexicanus*.

- Mammals: *Procyon cancrivorus*.

- **Livelihood benefits**

Project interventions will directly (and significantly) benefit households relying on extraction, processing, and trade of native hydrobiological resources (crabs, clams, and fish), as well as its local consumption. Due to the increase of mangrove forest, its function as a nursery habitat for native species will increase too. Therefore, the distribution of commercial species available for extraction (in line with legal, responsible fishing practices and policies) will grow at the following expected amount of individuals per each square meter:

- O.49 ind/m2 *Anadara similis*
- 1.2 ind/m2 *Anadara tuberculosa*
- 3.51 ind/m2 *Ucides occidentalis*

This improvement, in line with extraction limits and other conservation activities, will increase fishers' productivity, reducing the number of trips inside the mangrove forest needed to catch enough resources for a living.

What's more, earnings from carbon credit sales will not only make possible the listed project interventions but provide substantial funding for community led vehicles, including but not limited to:

- Cooperativa Pesquera Ecomanglar de Tumbes, which has the same members as CONMANOPE does, thus all of them are direct participants in conservation activities as well. This other legal entity currently serves as a platform to distribute profits coming from sales of raw hydrobiological resources among its members. It is expected to be used for the execution of product development projects (i.e., value added products made from mangrove crabs) and process optimization projects (i.e., efficiency increases by reducing time or resources spent on each process), therefore increasing income for fishers and their households.
- UNICA microcredit and savings units, which are small associations created to promote entrepreneurship through seed and/or working capital. There are 12 UNICAs with a total of 197 active members, 55% of them female, and those women are either members of CONMANOPE or nuclear relatives of CONMANOPE members (spouses, daughters, sons). This associations will execute projects mainly led by women, contributing to the gender gap reduction. Projects presented to UNICAs must be nature- based solutions or

	indirect contributors to conservation. Prior to the execution of collectively chosen projects, their proponents will be trained to reduce the risk of failure. Apart from the revenue generating benefits for local community members, the project execution will increase coastline protection, community protection against flooding and erosion (according to Wetlands International and The Nature Conservancy, available at: https://www.nature.org/media/oceansandcoasts/mangroves-for-coastal- defence.pdf), and provision of local food sources.
Methodology:	The selected methodology is REDD+
PIN Version:	1.3
Date Approved:	August 25, 2023

1 General Information

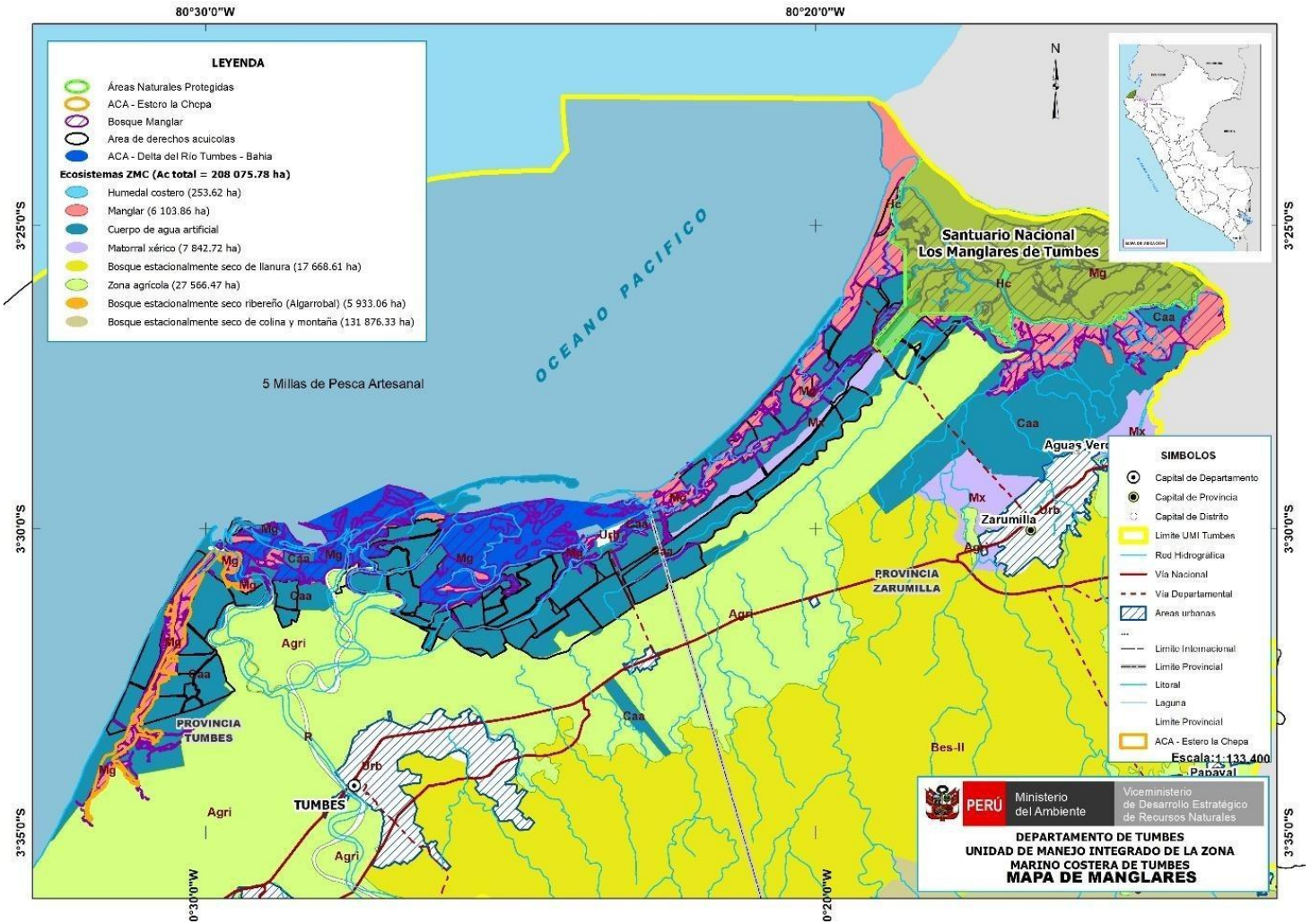
1.1 Project Interventions

Table 1.1 – Project Interventions

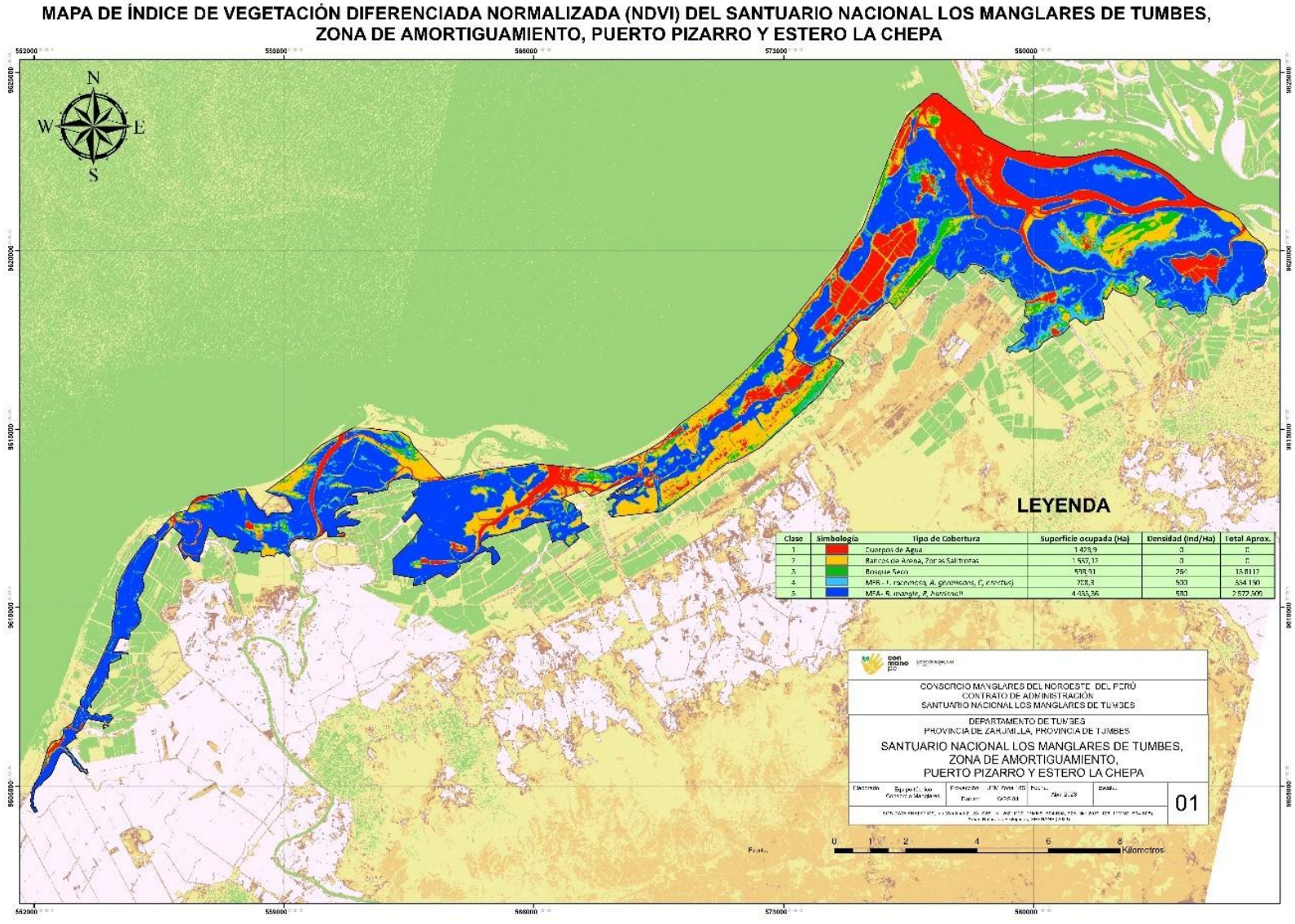
Intervention Type	Project Intervention	Expected Benefits
Protection	Avoiding deforestation and degradation of mangrove forest, to be conducted at the SNLMT and the ACAs, with potential for expansion.	Climate: At least a total of 192,197.48 Mg of carbon emissions avoided due to mangrove forest protection at the SNLMT and the ACAs in a period of 20 years, at a current extension of 3,458 mangrove forest hectares. Benefits might increase if the project includes other private lands inside the Tumbes mangrove ecosystem. Livelihood: Lost of nursery habitat for commercial species is avoided (stock reduction), which directly benefits fisher´s households. In addition, people engaging in conservation activities will receive a payment for their work. In the case of fishers, this will reduce time spent fishing, which leads to smaller, sustainable extraction rates without cutting off their income (this represents a positive leakage for the project, as they will reduce the amount spent on gasoline to go individually to the project areas to extract hydrobiological resources and instead go collectively to monitor the mangrove ecosystem). Environmental services coming from the protected areas will also benefit the community: the risk of coastline reduction, flooding and erosion will be reduced. Ecosystem: Native and migratory species (including highly threatened species like *Crocodylus acutus*) will keep their habitat.
Restoration	Assisted natural regeneration activities to be conducted at the ACAs and, if possible, private lands (part of the mangrove ecosystem).	Climate: Increase of carbon storage through mangrove restoration in 297.60 hectares. Total Mg Carbon stored: 92,976.64. Livelihood: Lost of nursery habitat for commercial species is avoided (stock reduction), which directly benefits fisher´s households. In addition, people engaging in conservation activities will receive a payment for their work. In the case of fishers, this will reduce time spent fishing, which leads to smaller, sustainable extraction rates without cutting off their income (this represents a positive leakage for the project, as they will reduce the amount spent on gasoline to go individually to the project areas to extract hydrobiological resources and instead go collectively to monitor the mangrove ecosystem). Environmental services coming from the protected areas will also benefit the community: the risk of coastline reduction, flooding and erosion will be reduced. Ecosystem: Native and migratory species (including highly threatened species like *Crocodylus acutus*) will keep their habitat.

1.2 Project Boundaries

1. Map of project region (Tumbes, Peru):



2. Map of project areas (Tumbes mangrove ecosystem):



3. Map of aquaculture production rights within the project areas:

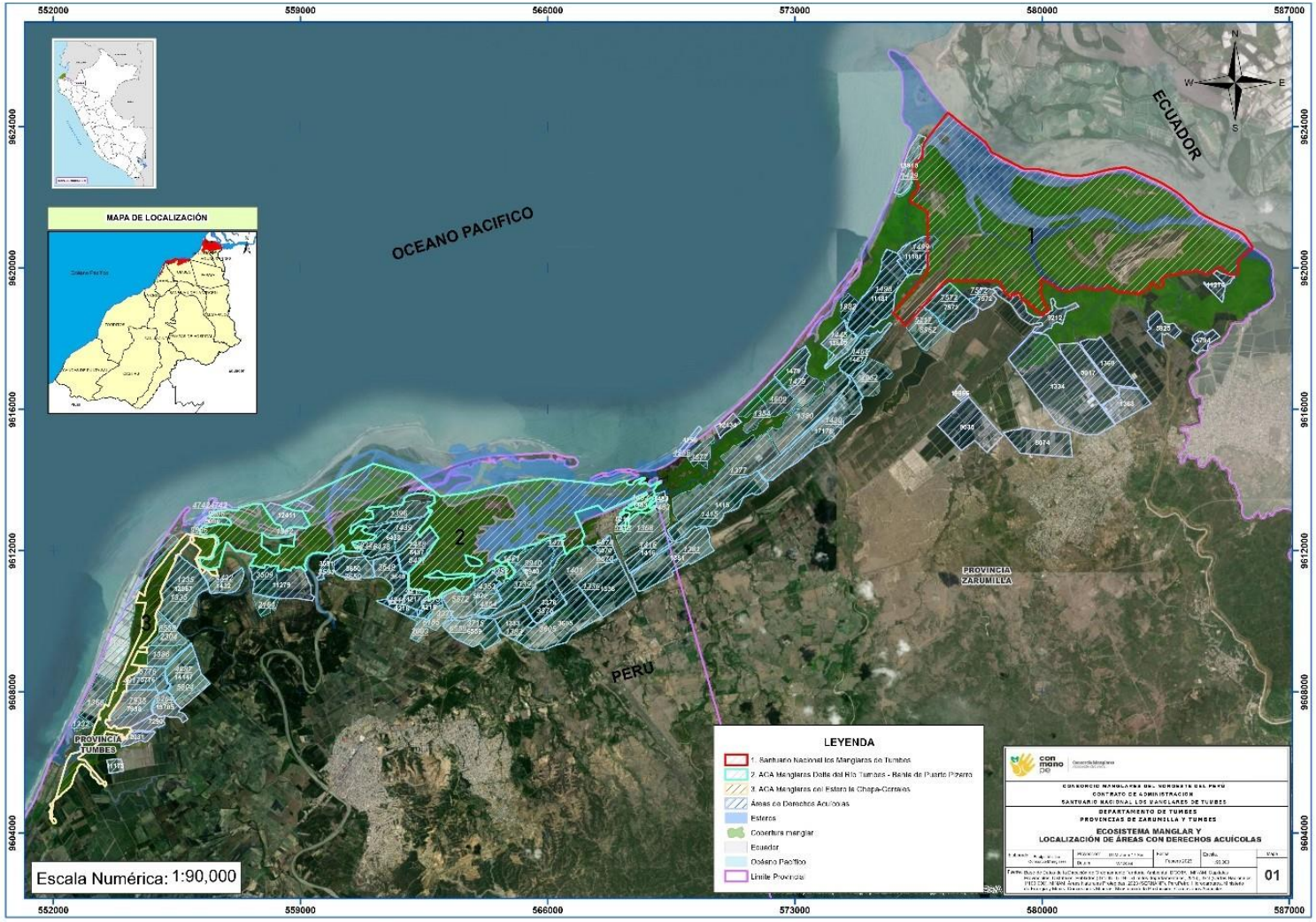


Table 1.2 Project Boundaries

Location:	Perú, Tumbes region, Zarumilla and Tumbes provinces
Project Region(s):	5213.38 hectares with expansion potential
Project Area(s):	SNLMT, 2972 hectares ACA1, 1927.84 hectares ACA2, 313.53 hectares
Protected Areas:	Santuario Nacional de los Manglares de Tumbes

1.3 Land and Carbon Rights

Both the SNLMT and the ACAs are property of the Peruvian Government; nevertheless, the installation of a co-management scheme among local public workers from SERNANP and local communities who work and/or dwell in the respective area is the mechanism which transfers the management responsibility and the carbon rights, in the case of the SNLMNT, to CONMANOPE. It is expected that a similar co-management scheme takes place in the ACAs, and CONMANOPE is making efforts to achieve that by mapping local stakeholders and holding conversations with townhalls in charge of approving the installation of the co-management scheme.

CONMANOPE has built a fruitful relationship with SERNANP local authorities, which is why the SNLMT´s Master Plan, the long-term strategy formal document that now states the relevance of blue carbon and the SNLMT´s goals towards issuing carbon credits, has been legally approved (available at: https://www.gob.pe/institucion/sernanp/normas-legales/3907709-064-2023-sernanp). Thus, even though the management contract between CONMANOPE and the Peruvian Government has a tenure of 20 years (renewable), the blue carbon goals are set up to be achieved either way.

Therefore, in the remote case in which CONMANOPE, the legitimate local entity which unites multiple local stakeholders, is not able to renew the management contract, SERNANP must select another community-based organisation and make sure that the commitments made from the carbon credit sales hold, as part of its legally binding Master Plan and the local disposition of CONMANOPE, as manager or not, to guide and execute conservation activities. This logic is also applied to the ACAs, which are currently in the process to stablish the co-management scheme. In addition, CONMANOPE will support the selected comanagers and provide the resources (through the creation of an Integrated Management Unit) to reach the desired carbon benefits. Precisely, CONMANOPE will offer them to join the Consortia.

On the other hand, even though CONMANOPE is entitled to manage the SNLMT, its Buffer Zone is not currently legally enabled to be part of the carbon credit project, according to the previously cited Master Plan. This might change and thus expand the projects carbon benefits, but in a conservative manner it is excluded from calculations until CONMANOPE achieves the constitution of a third ACA.

Finally, there are private landowners (these lands are part of Mangrove Ecosystem but are outside the SNLMT and the ACAs) which might be interested in this project, so CONMANOPE will make efforts to make them join the project. The carbon benefits associated with their land belonging solely to them.

2 Stakeholder Engagement

2.1 Stakeholder Identification

Primary stakeholders are listed above. All of them will be at the core of the project operations, therefore will also participate in the project´s design, including the benefit sharing mechanism, as participants in formal meetings to develop the project design that will be consolidated in the PDD.

1. UNICAs microcredit and savings units. These associations are led by and mainly composed of local women. Part of their members are at the same time associates of one of the fishing associations which compose CONMANOPE. These stakeholders will be positively affected by the project (with funding) and will also serve as a vehicle to reach other non-associated Tumbes community members. Funds assigned to UNICAs will be allocated to projects which have the highest community impact and promote nature-based solutions either from already constituted businesses or new ventures, which will also be highly considered if demonstrate to promote female entrepreneurship and leadership.

2. The six fishing associations part of CONMANOPE. Given that CONMANOPE is a product from a participatory process, holding fruitful relationships among its members is key to delivering the desired carbon benefits. According to an internal analysis conducted in 2021 presented to local authorities (available at: https://docs.google.com/spreadsheets/d/1aZbZz4soy90YMB269Q67Z1kYXg_4IXXS/edit#gid=847601958), 1 out of the 6 associations is not collaborating as they should be, which means participation in conservation activities is not properly conducted by them, as observed by the other participants. This kind of issues could negatively affect the project execution.

3. Other associations which legally operate in the Buffer Zone:

3.1. Asociación de Pescadores de Recursos Hidrobiológicos y Fomento del Ecoturismo Los Manglares de Puerto Perú. This association is currently dedicated to fishing and ecotourism and is ranked as one of the most collaborative organisations with CONMANOPE in terms of conservation activities. They could potentially benefit from the project through UNICAs led funding opportunities coming from PVC sales.

3.2 Asociación AAMMSS RRNN “Gran Chilimaza”. This association is dedicated to craftsmanship and could potentially benefit from funding as the previous one referred to, as they also get involve in conservation issues conversations with good disposition.

3.3 Cooperativa Agraria de Usuarios “Los maderos” limitada. This cooperative does ecotourism around the SNLMT. They are also potential funding recipients.

Secondary stakeholders:

3.4 Asociación “La Tarumilla”. This association has kept a non-engaging relationship when CONMANOPE calls stakeholders to discuss conservation issues. They represent a risk for the project, as their activities are conducted in the Buffer Zone but could expand to the SNLMT and contaminate or deforest it. Nevertheless, CONMANOPE will monitor their activity to protect the mangrove forest in the Buffer Zone, as well as preventing them from reaching the SNLMT.

3.5 Asociación de Despulpadores “STA ROSA”. This association has also maintained a distant relationship with CONMANOPE in terms of conservation issues. They represent a risk for the project as they have a similar behavior as Asociación “La Tarumilla”. Their processes can further

contaminate the mangrove forest by leaving solid waste from seafood processing without proper treatment. CONMANOPE will also prevent them from damaging the mangrove ecosystem.

4. ASPOPRODECAZ "Campo de amor". An association of Ecuadorians which work in the Buffer Zone. This association was created to protect the ecosystem from deforestation and solid waste contamination. They will benefit from the project in the sense that both CONMANOPE and them seek mangrove forest protection, including community awareness of its importance. For further information, visit: https://www.equatorinitiative.org/wp-content/uploads/2017/05/case_1_1366584353_SP.pdf

5. Private businesses which work at the Buffer Zone, including:

5.1 Tour operators, stores, and restaurants. They are potential fund recipients through UNICAs after conducting a due diligence process, verifying that their processes do not harm the mangrove ecosystem.

5.2 Marinasol, a large-scale shrimp business which could potentially buy PVCs. Some of its shrimp ponds are inside the Buffer Zone of the SNLMT but none of them are inside the SNLMT nor the ACAs. This company is on a path to sustainable production, as it currently contaminates estuaries by loading them with their residual water coming from the shrimp ponds. That´s why they are interested in buying carbon credits, and it´s also the reason why they have donated resources for the restocking of clams and crabs at the SNLMT. It´s important to note that their ponds inside the Buffer Zone have been their property since before the creation of the SNLMT.

6. Illegally working unassociated fishers, aquaculture practitioners and rice producers, which deforest and/or contaminate the SNLMT, entering without permission.

7. Associations that are present in the ACAs. This associations will be exhaustively mapped out after the set-up of a co-management scheme at the ACAs.

8. Government institutions, including:

8.1 Dependencies of the National Ministry of Environment, such as SERNANP (comanagers of the SNLMT), OEFA (in charge of monitoring negative anthropic impacts) and ALA (in charge of monitoring water quality and composition).

8.1 Dependencies of the National Ministry of Education and the National Ministry of Culture, which will positively impact the project by engaging in environmental education activities and ecotourism promotion.

8.2 Tumbes and Zarumilla Townhalls, who are expected to promote the co-management scheme and therefore expand the project to the ACAs.

9. NGOs: Plastic Zero and Heroes del Planeta (both are environmental protection movements), which might participate in conservation activities as volunteers.

10. CESSO: Consultancy firm that is strengthening the governance structure of CONMANOPE and acts as an advisor for this project. They are being paid from the BCAF project (IUCN) and thus they will not have a stake in terms of carbon credit ownership nor will be involved in this project execution, which belongs to the fishing associations and other community groups mentioned before.

2.2 Project Coordination and Management

CONMANOPE will take overall responsibility for the project in collaboration with SERNANP and the selected organisations for the co-management of the ACAs, which will potentially be adhered to CONMANOPE.

CONMANOPE is the consequence of a decade-large participatory process among fishing associations and the negotiation with local authorities. In 5 years of management, it has reached its conservation and human development objectives, as endorsed by the National Ministry of Environment.

CONMANOPE has raised funds and worked as coordinator in multiple projects, achieved through partnerships with the National Innovation Program for Fishing and Aquaculture (PNIPA, in Spanish), The Nature Conservancy, United Nations Development Program and, most recently, the International Union for Conservation Agency and the Australian government.

Table 2.2 Responsibility for Project Coordination and Management Functions

Project Coordination and Management Function	**Responsible Party/Parties**
Stakeholder engagement during project development and implementation	CONMANOPE
Ensuring conformance with the Plan Vivo Standard and compliance with applicable policies, laws and regulations	CONMANOPE
Developing technical specifications, land management plans and project agreements with project participants	CONMANOPE
Ensuring that the PDD is updated with any changes to the project	CONMANOPE
Registration and recording of land management plans, project agreements, monitoring results, and sales agreements	CONMANOPE
Managing project finances and dispersal of income to project participants as described by the benefit sharing mechanism	CONMANOPE
Managing Plan Vivo Certificates in the Plan Vivo Registry	CONMANOPE
Preparing annual reports and coordinating validation and verification events	CONMANOPE
Securing certificate sales and other means of funding the project	CONMANOPE
Assisting Project Participants to secure any legal or regulatory permissions required to carry out the project	CONMANOPE
Providing technical assistance and capacity building required for project participants to implement project interventions	CONMANOPE
Monitoring progress indicators, livelihood indicators and ecosystem indicators and providing ongoing support to project participants	CONMANOPE
Measurement, reporting and verification of carbon benefits	CONMANOPE

2.3 Project Participants

Below are identified the potential project participants for each project intervention, their location in relation to the project area(s) and project region.

First intervention: Protection

Project participant	Origin location(s)	Benefits brought to the project
Fishing associations part of CONMANOPE	Mangrove Ecosystem, Tumbes Province	Plan, lead and execute the intervention´s activities
SERNANP	SNLMT and Buffer Zone, Tumbes Province	Overall support in conservation activities
UNICAs	Multiple locations, Tumbes Region	Allocate funding for environmentally friendly projects led by local people
Cooperativa Pesquera Ecomanglar de Tumbes	SNLMT and Buffer Zone, Tumbes Province	Invest in the development of value- added products and in charge of its production to increase fishers' income.
Selected ACA co-managers (to be defined)	ACAs, Zarumilla Province	Execute the intervention´s activities, leaded by CONMANOPE

Second intervention: Restoration at the ACAs

Project participant	Origin location(s)	Benefits brought to the project
Fishing associations part of CONMANOPE	SNLMT and Buffer Zone, Tumbes Province	Knowledge and technology sharing, as well as project supervision
Selected ACA co-managers (to be defined)	ACAs, Zarumilla Province	Execute the intervention´s activities, leaded by CONMANOPE
SERNANP	SNLMT and Buffer Zone, Tumbes Province	Overall support in conservation activities

Second intervention: Restoration (expanded to private landowners)

Project participant	Origin location(s)	Benefits brought to the project
Private landowners (to be contacted)	Multiple locations inside the mangrove ecosystem, Tumbes Region, as it appears in an attached map of aquaculture rights.	Increased restoration and reduced contamination of the mangrove ecosystem conducted by the people that initially contaminated due to lack of conservation incentives and knowledge about the ecosystem benefits.

2.4 Participatory Design

CONMANOPE itself is the result of a decade-long participatory process, one of the Peruvian pioneers to establish a co-management scheme with the government for a Natural Protected Area. It is the joint effort made by 6 fishing associations to define how should they protect their environment while sustaining their livelihoods with the related services coming from the mangrove ecosystem.

In the search for a financially sustainable Conservation Areas Management, CONMANOPE´s technical team discovered the possibility to generate revenues from blue carbon credits. The solution seemed achievable to most of the leaders of CONMANOPE (one representative per each association, a total of 6 leaders) and thus they gave a subsequent task to the technical management team: to identify the suitable carbon certifying entity and potential donors to fund the process.

That is how CONMANOPE selected Plan Vivo, as it specifically considers the creation of socioeconomic value and not only environmental conservation. At the same time, CONMANOPE won funds from IUCN and the Australian Government to cover carbon certification costs and other short-term activities related to conservation and governance improvement (which directly contribute to the certification process). This financial aid is not binding the potential carbon credits to the donors, as they only seek to help in the process but not to buy credits for themselves. That´s the reason why the consulting firm CESSO, Centro de Estudios de Sistemas Sociales, is currently helping CONMANOPE to strengthen its governance both inwards (among fishing associations) and outwards (with other stakeholders).

The technical team discussed with CESSO on how they should develop a strong governance structure for this conservation and development project to be presented to Plan Vivo. For that, CESSO stated the following steps:

1. Conduct a virtual meeting with SERNANP to identify potential governance capacity gaps of CONMANOPE, and to share with them the overall functioning of the Plan Vivo project management requirements and potential funding destinations.

2. In a subsequent meeting: Identify needs, potential project commitments, strengths and weaknesses of each fishing association part of CONMANOPE, all in a virtual workshop. Share with them the overall functioning of the Plan Vivo project management requirements and potential funding destinations.

3. Conduct two in person workshops: one to discuss and propose governance improvements for CONMANOPE (including a gender gap analysis) and the other to the governance and project design to be presented to Plan Vivo. These workshops must be conducted with the community members/associates willing to attend and not only their representatives (Presidents).

4. Corroborate if the associations´ members are aware of the project and if they know who they can benefit from it and what is required from them in terms of conservation activities. To be achieved through a survey.

5. Conduct a workshop with UNICA representatives to finish the project design and governance structure. Define responsibilities for each organization, decision making mechanisms to allocate funding and the extent to which they shall directly and indirectly contribute to the project interventions (protection and restoration).

The technical team has conducted the virtual meetings and Associations´ leaders have demonstrated their genuine interest to design the project and improve governance mechanisms.

The meeting with SERNANP was recorded and it´s available at:

https://drive.google.com/file/d/1jHdu_O9k75kQi3H6YIKjso3zG7hUjncE/view?usp=share_link

The meeting with the Associations´ leaders was recorded and it´s available at:

https://drive.google.com/file/d/1iL3f4FTl79WXcKVMyZmN7HCHSsGdEzJ7/view?usp=share_link

In addition, CONMANOPE has already conducted one of the planned two in person workshops with community members and collected information to build up a social baseline and analyse gender gaps within the potential project participants. The second workshop is expected to be conducted by the third quarter of 2023, potentially in our Q3 public reporting meeting about the SNLMT management. This could be helpful to increase the assistance of most of the associations´ members, as they wouldn´t need to assist to a meeting on different days and places. Photos from the first in person meeting are available at:

https://drive.google.com/drive/folders/1brSZoaNRFrSHRwP8UsfJJUmIBm9e4fu1?usp=drive_link

CONMANOPE will leverage the learnings on how to conduct project design and how to establish effective governance mechanisms and use them in the subsequent participatory process to be done with the ACAs comanagers and their stakeholders.

In case the project expands due to the integration of private landowners, the requirements in terms of engagement in mangrove ecosystem protection and restoration activities will be addressed with the interested parts.

2.5 FPIC Process

As stated in the Participatory Design Section, the project will be developed through a participatory process in which all project participants will be notified and the organisations´ leaders will directly engage to define how the project will be.

Representatives/leaders of other local communities, which are not direct project participants, will be notified and invited to participate in the in-person meetings mentioned before.

In addition, throughout a survey that will also be useful to further develop the social baseline, a sample of project participants will respond to questions made to know if:

1. They have been previously told about the project and know how it could affect/benefit them.

2. Their organisation will have a role at the project.

3. They will engage in the project design process.

4. They will be part of the project implementation.

3 Project Design

3.1 Baseline Scenario

Financial instability of CONMANOPE is the most pressing concern for mangrove ecosystem conservation at the SNLMT and the ACAs. CONMANOPE has effectively performed its conservation duties since it was entitled as comanager of the Sanctuary, but its activities haven´t been performed at the desired frequency nor extension. Conservation activities have been restricted by financial limitations and sporadically fueled by short-term projects won by CONMANOPE, like the Peruvian government program for innovation in fishing and aquaculture contest (a national level competition), international aid funding from ITTO, IFC, UNDP and most recently IUCN and the Australian Government. These grant funding opportunities are scarce and competitive, thus not always available, and that´s why CONMANOPE struggles from financial distress on a recurrent basis.

Volunteering from low-income fishers is the current situation and isn´t a sustainable solution, as for the conservation work, fishers are not paid and their current revenue streams are highly volatile (this is the case for most artisanal fishing communities) and small, even below the minimum wage on average. If this lack of financing continues, fishers will eventually stop their conservation efforts and the mangrove forest at SNLMT and the ACAs will be in danger again, considering a mangrove restoration average total cost of US $600 per hectare and a standard ecosystem protection monthly cost of US 4$ per hectare.

In case CONMANOPE members leave the conservation work to take care of their household´s economic needs, some other community members will expand their land limits and start deforesting and deteriorating the project areas to perform unsustainable economic alternatives.

3.2 Livelihood Baseline

Below are described the prior livelihood status and expected changes by stakeholder.

1. The six artisanal fishing associations (current members of CONMANOPE):

All the artisanal fishing associations part of CONMANOPE have full access to the SNLMT, as they are historically present in that area prior to its denomination as a Natural Protected Area. Most of CONMANOPE members are crab and clam harvesters, as well as fish aquaculture practitioners.

Typical assets include both rowing boats and motorboats, boots to get under muddy spaces and fishing nets. Apart from that, as members of the Cooperativa Pesquera Ecomanglar de Tumbes, they are about to launch a primary processing plant.

Income levels vary both for the highly volatile seafood prices and resource availability. If there´s not enough species distribution per square meter, fishers need more trips to catch enough resources to sale. Income per capita varies highly and it can gross income can be lower than the Peruvian minimum wage (around 260 US dollars per month).

Expected change: The project interventions will increase the resource availability, which means fishers will have more productive trips. In addition, funding will be partially used through the Cooperativa Pesquera Ecomanglar de Tumbes, to invest in the development of value-added products and processes, therefore increasing both seafood price and units sold.

2. The UNICAs:

As microcredit initiatives, the UNICAs provide credit and savings solutions to its members. By 2021, the UNICAs have given 271 credits, 169 were provided to women and 102 to men. Credit quantity

for women was equivalent to 68% of the whole credited amount. Credit was mainly given for seed capital and working capital for women led businesses (65% of the whole credited amount).

Business varies from clothing, dish making, baking, home services and beauty products sale. Up to 2021, all the lenders fulfilled their payment schedules, which increases trust among its members.

Expected change: Through funding and capacity building, women-led business creation will grow at even higher rates, create new jobs and contribute to the mangrove ecosystem conservation.

3.3 Ecosystem Baseline

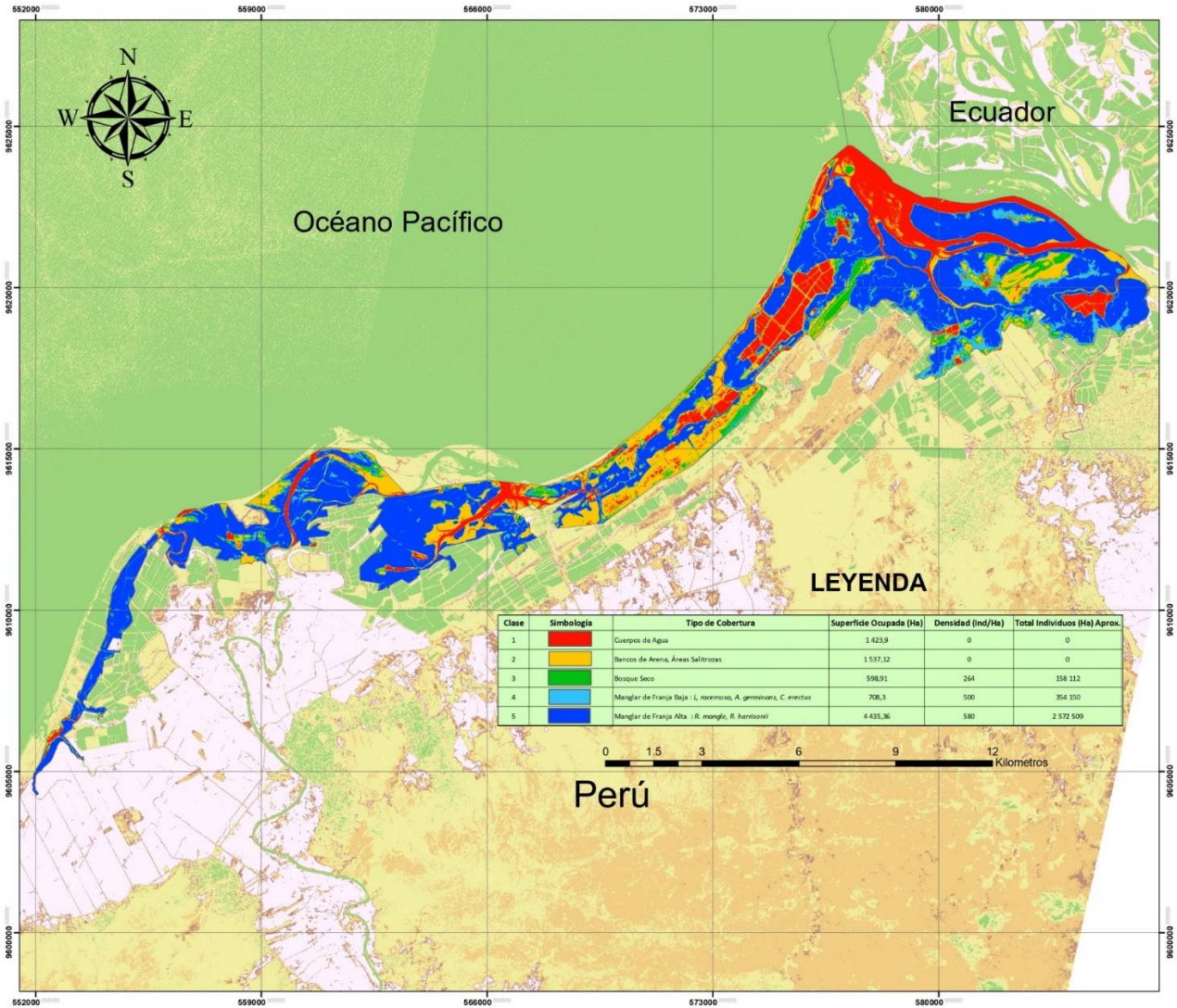
The mangrove ecosystem has been historically threatened by anthropic activity at Tumbes Region. The following table summarizes those impacts at the overall mangrove forest in Tumbes, collected through satellite images and processed by the Instituto Geofísico del Perú (IGP). The document is available at: https://drive.google.com/drive/folders/150MnoShQ3xPUo-Q9oKGK8uaDZnia0btp?usp=share_link.

Satellite image data of capture	Extension (hectares)
05.16.1977	5671.89
01.20.1982	4742.46
02.11.1983	4479.21
01.12.1984	3820.50
03.28.1991	3531.06
07.31.1996	4135.50
06.19.1998	3512.88
11.23.2000	4389.57
05.08.2003	4441.50
11.29.2008	4395.15
11.03.2014	4586.58

Thanks to new satellite images provided by SERNANP and processed by the CONMANOPE technical team, mangrove forest extension at the total mangrove ecosystem has been estimated at 5,143.66 hectares. The processed image is shown on next page, and an amplified version of the legend of this image is shown below:

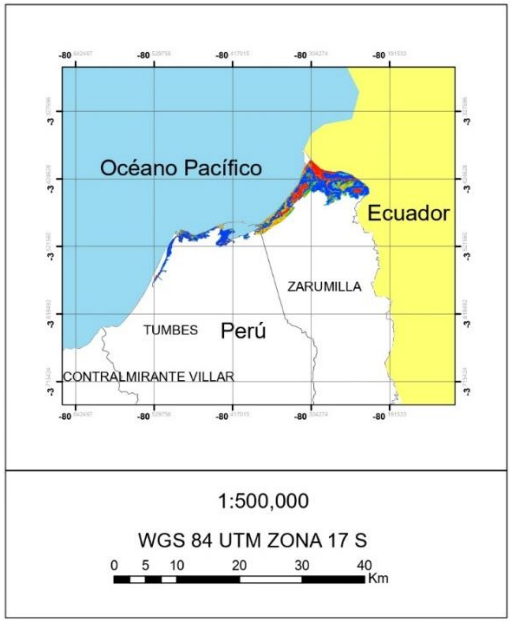
Map colour	Type of land coverage	Extension (hectares)	Density (Individuals per hectare)	Estimate of total individuals (per hectare)
Red	Water bodies	1423.9	N.A.	N.A.
Yellow	Sand or brine streams	1537.12	N.A.	N.A.
Green	Dry forest	598.91	264	158112
Sky blue	Mangrove species: *Laguncularia racemosa*, *Avicennia germinans*, *Cornocapus erectus*	708.3	500	354150
Blue	Mangrove species: *Rhizophora mangle*, *Rhizophora harrisonii*	4435.36	580	2572509

MAPA DE ÍNDICE DE VEGETACIÓN DE DIFERENCIA NORMALIZADA (NDVI) DEL ECOSISTEMA MANGLAR DE TUMBES



LEYENDA

Clase	Simbología	Tipo de Cobertura	Superficie Ocupada (Ha)	Densidad (Ind/Ha)	Total Individuos (Ha) Aprox.
1		Cuerpos de Agua	1 423,9	0	0
2		Bancos de Arena, Áreas Salitrozas	1 537,12	0	0
3		Bosque Seco	598,91	264	158 112
4		Manglar de Franja Baja : *L. racemosa, A. germinans, C. erectus*	708,3	500	354 150
5		Manglar de Franja Alta : *R. mangle, R. harrisonii*	4 435,36	580	2 572 509



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CONTRATO DE ADMINISTRACIÓN
SANTUARIO NACIONAL LOS MANGLARES DE TUMBES

DEPARTAMENTO DE TUMBES
PROVINCIA DE ZARUMILLA, PROVINCIA DE TUMBES

SANTUARIO NACIONAL LOS MANGLARES DE TUMBES,
ZONA DE AMORTIGUAMIENTO,
ACA MANGLARES DELTA DEL RÍO TUMBES - BAHÍA PUERTO PIZARRO,
ACA MANGLARES DEL ESTERO LA CHEPA - CORRALES

Elaborado	Proyección:	Fecha:	Escala:	
Equipo técnico Consorcio Manglares	UTM Zona 18S	Abril 2023	1:100,000	01
	Datum: WGS 84			

Fuente: EOS DATA ANALYTICS, Inc (Sentinel-2 L2A: S2B_Fecha_2021 11 20_17MNS_B04-B08. S2A_Fecha_2019 11 26_17MNS_B04-B08). Áreas Naturales Protegidas, SERNANP (2023)

The data from IGP shows a mangrove forest reduction 21.36% from 1977 to 2014. Moreover, the period from 1977 to 1984 was, according to the IGP, the reduction was higher due to a boom in aquaculture, which made intensive use of lands to build shrimp farms. For that reason, the SNLMT was constituted in 1984, introducing access restrictions for economic activities at this area.

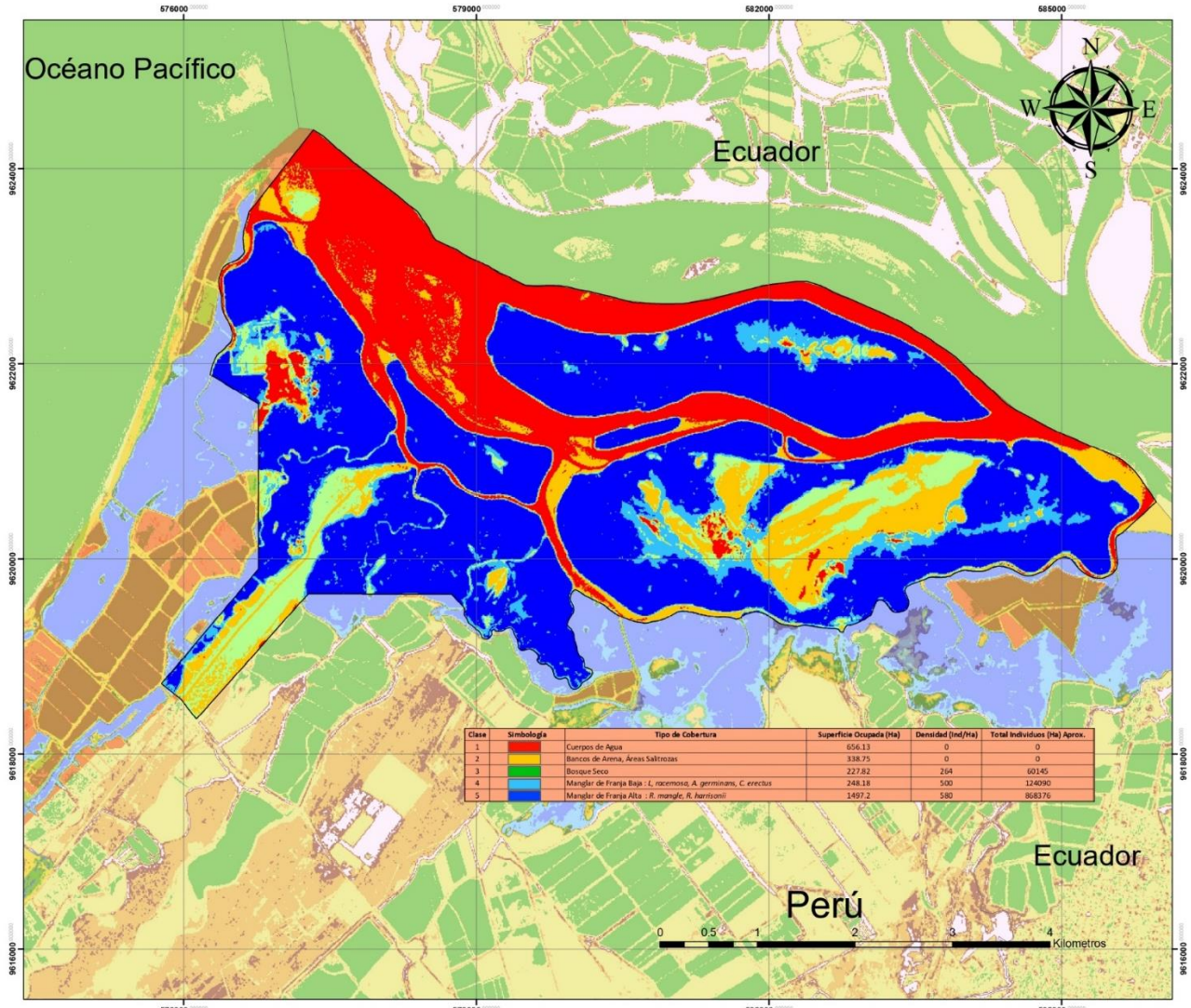
Mangrove extension, at least at the SNLMT, was provided with protection mechanisms and a Buffer Zone, which led to the following changes:

Zone	Hectares in 1985	Hectares in 2014
Mangroves (Group 1)	1432.44	1461.33
Mangroves (Group 2)	106.2	78.12
Dry forest	209.97	201.15
Halophytic vegetation	168.57	45.63

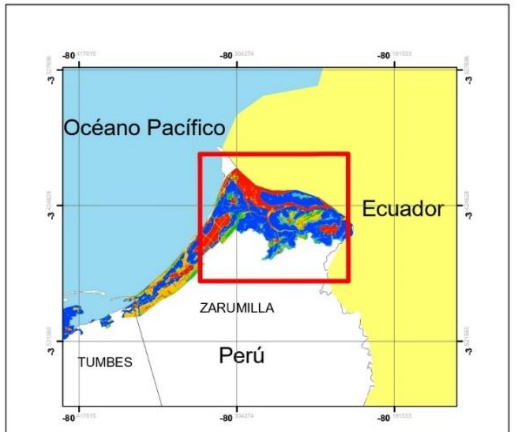
Moreover, through the set-up of a co-management scheme since 2014, the mangrove ecosystem at the SNLMT clearly improved in terms of protection and restoration. The image shown next page is the map that reflects how much the co-management scheme has benefited the SNLMT. Below we present this map´s legend:

Map colour	Type of land coverage	Extension (hectares)	Density (Individuals per hectare)	Estimate of total individuals (per hectare)
Red	Water bodies	656.13	N.A.	N.A.
Yellow	Sand or brine streams	338.75	N.A.	N.A.
Green	Dry forest	227.82	264	60145
Sky blue	Mangrove species: *Laguncularia racemosa*, *Avicennia germinans*, *Cornocapus erectus*	248.18	500	124090
Blue	Mangrove species: *Rhizophora mangle*, *Rhizophora harrisonii*	1497.2	580	868376

MAPA DE ÍNDICE DE VEGETACIÓN DE DIFERENCIA NORMALIZADA (NDVI) DEL SANTUARIO NACIONAL LOS MANGLARES DE TUMBES



Clase	Simbología	Tipo de Cobertura	Superficie Ocupada (Ha)	Densidad (Ind/Ha)	Total Individuos (Ha) Aprox.
1		Cuerpos de Agua	656.13	0	0
2		Bancos de Arena, Áreas Salitrozas	338.75	0	0
3		Bosque Seco	227.82	264	60145
4		Manglar de Franja Baja : *L. racemosa, A. germinans, C. erectus*	248.18	500	124090
5		Manglar de Franja Alta : *R. mangle, R. harrisonii*	1497.2	580	868376



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SANTUARIO NACIONAL LOS MANGLARES DE TUMBES,
ZONA DE AMORTIGUAMIENTO,
ACA MANGLARES DELTA DEL RÍO TUMBES - BAHÍA PUERTO PIZARRO,
ACA MANGLARES DEL ESTERO LA CHEPA - CORRALES

Elaborado: Equipo técnico Consorcio Manglares	Proyección: UTM Zona 18S Datum: WGS 84	Fecha: Abril 2023	Escala: 1:30,000	04
Fuente: EOS DATA ANALYTICS, Inc (Sentinel-2 L2A: Fecha_2019 11 26_17MNS_B04-B08)				

As shown, mangrove extension has grown from 2014 to 2019, in both mangrove forest groups (*Rhizophora* and *A. germinans*).

Apart from the SNLMT, constituted decades before, the ACAs were set up in 2016 and 2017, thanks to the efforts made by CONMANOPE to convince local authorities and organise conservation activities. CONMANOPE advised the local authorities in this process, including the selection of the conservation measure (constituting Environmental Conservation Areas instead of Natural Protected Areas) because ACAs enable local community members to perform economic activities in a sustainable manner. Through field work and sampling, the ACAs were constituted with the following characteristics:

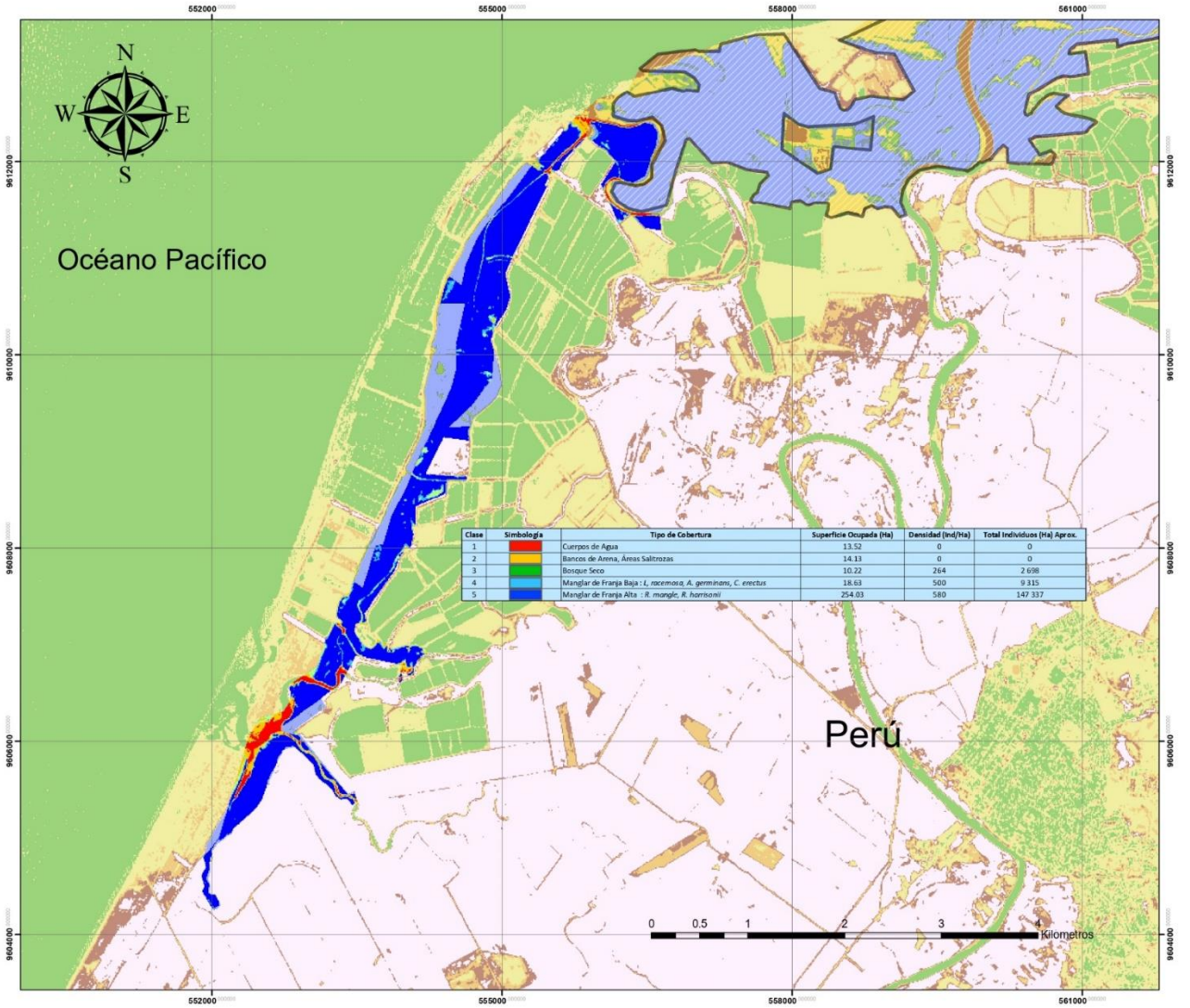
ACA1 – Estero La Chepa	
Zone	**Hectares (at the year of constitution)**
Mangrove forest	264.27
Dry forest	3.95
Estuaries	39.00
Sand	6.30
Total area	**313.53**

ACA2 – Delta del Río Tumbes – Bahía de Puerto Pizarro	
Zone	**Hectares (at the year of constitution)**
Mangrove forest	1212.93
Dry forest	306.6
Estuaries	408.31
Total area	**1927.84**

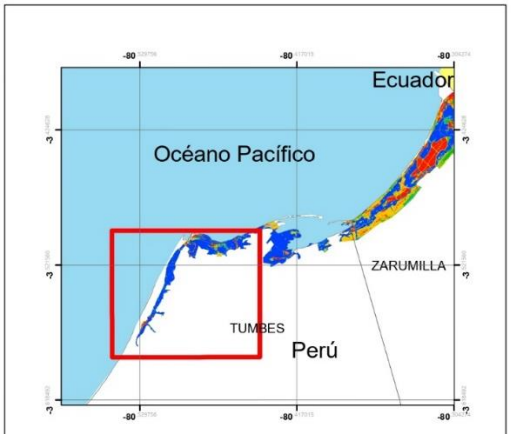
With CONMANOPE, the mangrove forest has been protected and restored at the ACAs. On the next page is shown a map of ACA1, demonstrating this positive impact with the current mangrove forest extension estimates. Below appears the amplified version of map´s legend.

ACA Estero La Chepa – Corrales				
Map colour	**Type of land coverage**	**Extension (hectares)**	**Density (Individuals per hectare)**	**Estimate of total individuals (per hectare)**
Red	Water bodies	13.52	N.A.	N.A.
Yellow	Sand or brine streams	14.13	N.A.	N.A.
Green	Dry forest	10.22	264	2698
Sky blue	Mangrove species: *Laguncularia racemosa*, *Avicennia germinans*, *Cornocapus erectus*	18.63	500	9315
Blue	Mangrove species: *Rhizophora mangle*, *Rhizophora harrisonii*	254.03	580	147337

MAPA DE ÍNDICE DE VEGETACIÓN DE DIFERENCIA NORMALIZADA (NDVI) DEL ÁREA DE CONSERVACIÓN AMBIENTAL MANGLARES DEL ESTERO LA CHEPA - CORRALES



Clase	Simbología	Tipo de Cobertura	Superficie Ocupada (Ha)	Densidad (Ind/Ha)	Total Individuos (Ha) Aprox.
1		Cuerpos de Agua	13.52	0	0
2		Bancos de Arena, Áreas Salitrozas	14.13	0	0
3		Bosque Seco	10.22	264	2 698
4		Manglar de Franja Baja : *L, racemosa, A. germinans, C. erectus*	18.63	500	9 315
5		Manglar de Franja Alta : *R. mangle, R. harrisonii*	254.03	580	147 337



1:250,000

WGS 84 UTM ZONA 17 S

0 2.5 5 10 15 20 Km

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ACA MANGLARES DEL ESTERO LA CHEPA - CORRALES

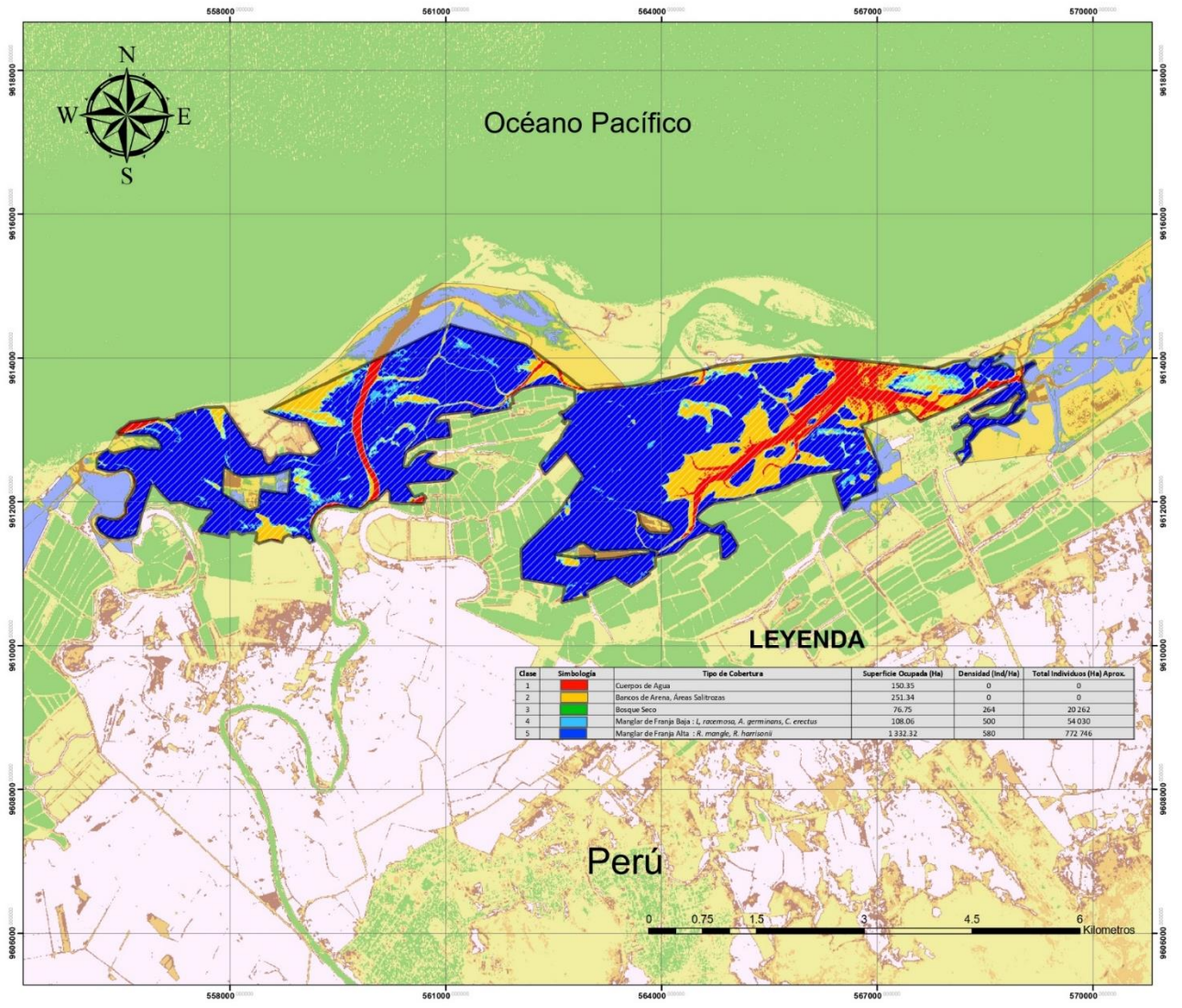
Elaborado	Proyección	Fecha	Escala	
Equipo técnico Consorcio Manglares	UTM Zona 18S Datum: WGS 84	Abril 2023	1:30,000	03

Fuente: EOS DATA ANALYTICS, Inc (Sentinel-2 L2A: S2B_Fecha_2021 11 20_17MNS_B04-B08)
Áreas Naturales Protegidas, SERNANP (2023)

The same occurred with ACA2, as is shown on the next page´s map. Below appears the amplified version of that map:

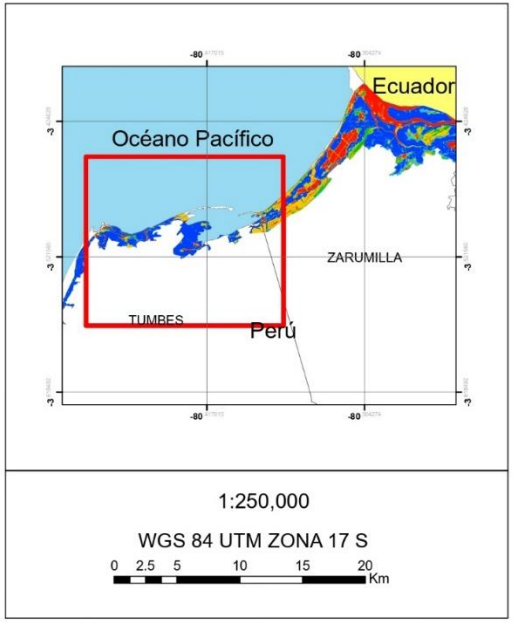
ACA Delta del Río Tumbes – Bahía de Puerto Pizarro				
Map colour	**Type of land coverage**	**Extension (hectares)**	**Density (Individuals per hectare)**	**Estimate of total individuals (per hectare)**
Red	Water bodies	150.35	N.A.	N.A.
Yellow	Sand or brine streams	251.34	N.A.	N.A.
Green	Dry forest	76.75	264	20262
Sky blue	Mangrove species: *Laguncularia racemosa*, *Avicennia germinans*, *Cornocapus erectus*	108.06	500	54030
Blue	Mangrove species: *Rhizophora mangle*, *Rhizophora harrisonii*	1332.32	580	772746

MAPA DE ÍNDICE DE VEGETACIÓN DE DIFERENCIA NORMALIZADA (NDVI) DEL ÁREA DE CONSERVACIÓN AMBIENTAL MANGLARES DELTA DEL RÍO TUMBES - BAHÍA PUERTO PIZARRO



LEYENDA

Clase	Simbología	Tipo de Cobertura	Superficie Ocupada (Ha)	Densidad (Ind/Ha)	Total Individuos (Ha) Aprox.
1		Cuerpos de Agua	150.35	0	0
2		Bancos de Arena, Áreas Salitrozas	251.34	0	0
3		Bosque Seco	76.75	264	20 262
4		Manglar de Franja Baja : *L. racemosa, A. germinans, C. erectus*	108.06	500	54 030
5		Manglar de Franja Alta : *R. mangle, R. harrisonii*	1 332.32	580	772 746



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ACA MANGLARES DELTA DEL RÍO TUMBES - BAHÍA PUERTO PIZARRO,
ACA MANGLARES DEL ESTERO LA CHEPA - CORRALES

Elaborado	Proyección	Fecha	Escala	
Equipo técnico Consorcio Manglares	UTM Zona 18S Datum: WGS 84	Abril 2023	1:40,000	02

Fuente: EOS DATA ANALYTICS, Inc (Sentinel-2 L2A: S2B_Fecha_2021 11 20_17MNS_B04-B08)
Áreas Naturales Protegidas, SERNANP (2023)

3.4 Project Logic

Table 3.4 Initial Project Logic

Aim Recover and avoid losses of mangrove forest and its related ecosystem services while improving livelihoods of local stakeholders, effectively motivating them to engage in conservation activities.		
	Description	**Assumptions/Risks**
Outcomes – Intended overall project aim		
Carbon Benefit	A total of 192,197.48 Mg C not released to the atmosphere thanks to mangrove forest protection, and a total of 92,976.64 additional Mg C sequestered due to mangrove forest assisted natural regeneration.	We assume growth/loss rates based on historical evidence at the project areas and the Buffer Zone.
Livelihood Benefit	Income and productivity increase from fishing and alternative income from conservation work. Income increases for tourism operators, merchants, and entrepreneurs from UNICAs. Gender gap reduction.	It is assumed that women will cover at least 50% of the new jobs created for each funded project.
Ecosystem Benefit	Increased coastal protection, reduced risk from flooding and erosion, habitat, and species protection.	It is assumed that climate risk will materialize more frequently, and the protection increase will be highly appreciated by Tumbes Region´s citizens.
Outputs		
Output 1	Avoid the loss of 423.36 hectares of mangrove forest in a 20-year period.	Operational risk associated to the extent of surveillance activities throughout the project areas. This risk will be mitigated by setting up more frequent and larger surveillance rounds. Assumption: CONMANOPE will either (and try first to) convince La Tarumilla and STA ROSA associations to participate in this project and stop contaminating waters and deforesting mangroves or (in the worst case) try to stablish boundaries on their contamination levels to avoid its entrance to the project areas. In addition, CONMANOPE will leverage its special patrolling teams to identify, report and reduce the actions of these associations if they are entering project areas. Special patrolling teams are composed of CONMANOPE park rangers, SERNANP rangers, police officers and representatives from the

		Regional Government, thus this patrolling team has a thorough jurisdiction of the project areas.
Output 2	Increase the extent of the mangrove forest by 297.60 hectares in 20 years.	The ACAs have equally positive opportunities for mangrove forest expansion, as their inner zones in need of restoration have already been delimited and characterized in the document of constitution of each ACA. Furthermore, the surroundings of this restoration zones are highly accessible wildlife zones.
Output 3	Creation of an integrated Management Unit (IMU).	It is assumed that the IMU will be operating by the end of 2023, which will enable technology and knowledge sharing for the ACAs.
Output 4	Species distribution increase per square metre: (i) 1.2 ind/m2 *Anadara tuberculosa*, (ii) 0.49 ind/m2 *Anadara similis* and (iii) 3.51 ind/m2 *Ucides occidentalis*	Stock increase levels are conservative, assuming a low reproduction rate for the correspondent species.
Output 5	At least, 2 natured based solution projects funded per year.	It is assumed that the presented projects are suitable for the funding available from PVC sales. Too big or too small projects are not expected to take place. A guide for project presentations will be provided to interested people to mitigate this risk.
Output 6	All project leaders (entrepreneurs) will receive training for their businesses.	It is assumed, from prior experience, that selected project leaders will be able to attend the business training sessions.
Output 7	Issuance and sale of carbon credits	Theres a risk of delay from carbon credit revenues derived from a slow sales process. This risk has been mitigated by the prior screening of potential buyers, i.e., Marinasol, which seeks to offset its carbon footprint and could also benefit from a healthier mangrove ecosystem, as its ponds are partially located at the Buffer Zone.
Output 8	Local communities take the lead on mangrove ecosystem conservation by being in charge of management of the ACAs and the SNLMT.	Assumption: CONMANOPE will remain as manager of the SNLMT for the next 20-year period, at least. The same should happen with the other project participants designated as managers of the ACAs. Risks: In the case of CONMANOPE, this risk has already been eliminated, as this Consortium has been recognized by the Government as the suited entity to

		manage the SNLMT and there has been full coverage of its responsibilities as manager. However, TBD managers of the ACAs should be trained and skilled up to achieve this, thus CONMANOPE will invite them to join its Consortium and receive all of its know-how and culture.

3.5 Additionality

Table 3.5 Initial Barrier Analysis

Project Intervention	Main Barriers	Activities to Overcome Barriers
Protection	CONMANOPE members do not have the resources to maintain nor expand their conservation work along the mangrove ecosystem. They rely on in kind support from their members as park rangers, reducing their income; as well as non-regular funding coming from Government contests and international funds for conservation.	**Human resources:** Give a fee for service to fishers for each day dedicated to conservation activities instead of fishing. This will be a transitory solution to be replaced by the income increase that fishers will receive from the expected investments through UNICAs and the Cooperative. In addition, the project´s potential expansion (inclusion of participants) will be useful to expand the conservation reach at the project areas. **Financial resources:** The PVC sales will provide the funding needed for nature- based business development, and the set-up of a second fee: a fee for use of ecosystem services, thus creating a recurring revenue stream for mangrove conservation.
Restoration	Currently the ACAs don´t have community organisations as their co-managers, as the Town Halls have not yet decided to set up a co-management scheme for these lands. This is a problem because traditional top-down management led only by public institutions has proven to be inefficient at controlling deforestation.	**Human resources:** Capacity building for leadership and engagement with the public authorities will be given to CONMANOPE leaders. **Technical resources:** Conservation management tools that are currently for the use of the Sanctuary (Project area 1) will be implemented at the other project areas. Specifically, a map of the whole ACAs will be developed, identifying the threats of each of the hectares part of these areas and enabling satellite data gathering.

3.6 Exclusion List

The project doesn´t include Plan Vivo exclusion list activities.

3.7 Environmental and Social Screening

Table 3.7 Environmental and Social Risks

Risk Area	Potential Risks
Vulnerable Groups	There's no materiality issue, as the UNICA microfinance units are catalysing work with women, the most vulnerable group involved in this project.
Gender Equality	This risk is mitigated by constantly calling women to participate in decision making with equal voting rights, apart from all the female leadership action at the UNICAs.
Human Rights	Park rangers (volunteer members of CONMANOPE) have been previously threatened by illegal fishing, aquaculture and rice production practitioners. CONMANOPE will provide guidance on how to report illegal activities without compromising the park rangers´ lives. In addition, CONMANOPE will invite these people to open dialogue and try to convince them to protect the mangrove ecosystem.
Community, Health, Safety & Security	CONMANOPE has identified the equipment needed to conduct conservation activities in a safe manner and will acquire them to secure health of each of its members conducting field work.
Labour and Working Conditions	The Cooperativa Pesquera Ecomanglar has been built to share benefits and responsibilities within fair and transparent conditions. On the other hand, there´s no outsourcing in conservation nor extraction activities, which means child labour and other harmful labour practices cannot happen without notice.
Resource Efficiency, Pollution, Wastes, Chemicals and GHG emissions	CONMANOPE uses all organic waste from hydrobiological resources extraction to sell products like fertilizers for agriculture, promoting circularity and avoiding the use of expensive, non-local alternatives. There´s no internal pollution risk, but activities like illegal mining, shrimp farming, wastewater and landfill are current threats, as those activities have already damaged part of the Buffer Zone. CONMANOPE will mitigate this risk at the ACAs the same way as it works at the SNLMT: by using an ecosystem grid view to map out how close those threats are to the

	protected areas. This will be possible with the constitution of the IMU to share this technology and improve surveillance and protection guards.
Access Restrictions and Livelihoods	Community members have partial access to the SNLMT for productive purposes. Instead, access to the ACAs is free for everyone. The associations part of CONMANOPE are legally authorized to work at the SNLMT in a sustainable way.
Cultural Heritage	As all project participants and stakeholders are part of the same culture, this type of risk doesn't threat the project.
Indigenous Peoples	There are no indigenous people at Tumbes according to the Peruvian National Ministry of Culture. Information is available at: https://bdpi.cultura.gob.pe/
Biodiversity and Sustainable Use of Natural Resources	CONMANOPE has worked for the sustainable use of natural resources since 2016 and helped increase biomass rates of main commercial species, as it is committed to protect biodiversity.
Land Tenure Conflicts	Haven´t occurred in the past and are not expected to occur in the future, as those lands are state-owned.
Risk of Not Accounting for Climate Change	Climate change risks will be periodically monitored (at least one time per year). Recall the mangrove ecosystem offers natural protection against climate risks.
Other – e.g. Cumulative Impacts	N.A.

3.8 Double Counting

No double counting risk because:

1. NDCs haven´t adhere the SNLMT nor the ACAs as part of Peru´s contribution, and

2. There are no other carbon projects in any of the proposed areas.

Table 3.8 National Level Legislation, Policies and Instruments

	Yes/No/Unsure	**Details**
Is there a national registry for land-based carbon projects?	No	There are independent private initiates. Most of them are available at: https://profonanpe.org.pe/
Are carbon rights defined in national legislation?	Yes	Yes, and carbon rights are transferable through management contracts.
Are there any carbon pricing regulations existing or in development (e.g. emissions trading scheme or carbon tax)	No	There´s no national carbon pricing agenda.

Does the country receive or plan to receive results-based climate finance through bilateral or multilateral programs?	No	The Government hasn't announced this kind of programs. What is ongoing is the implementation of NDCs throughout Peru.
Are there any other relevant regulations, policies or instruments?	No	No of special consideration.

4 Governance and Administration

4.1 Governance Structure

The Governance Structure will be designed during a participatory workshop with the leaders of each association and representatives of the remaining project participants. Thanks to the consultation with CESSO (a consulting firm which is our partner from the BCAF project, but not a stakeholder of this project, only an external advisor) we are now able to lead and build a bottom-up governance structure. The governance structure draft is the following:

Project design formulation process:

Input from project participants will be recorded during online meetings and synthesized (on formal documents) during in-person meetings. Support from consultants will facilitate the design process, based on a toolkit of participatory tools such as the empathy map, the field theory in practice (from Kurt Lewin), among others, to properly collect not only what the community members say, but also what they do, feel, and think. This all will be processed to deliver a design in which the great majority of the participants are committed and agreed.

Project design complaints' treatment:

Any complaints will be discussed during the in-person meetings and documented as well, including the great majority´s response to those issues and if the participant which presented the complaint will continue or not with the project and why yes/no.

Benefit sharing mechanisms (Draft):

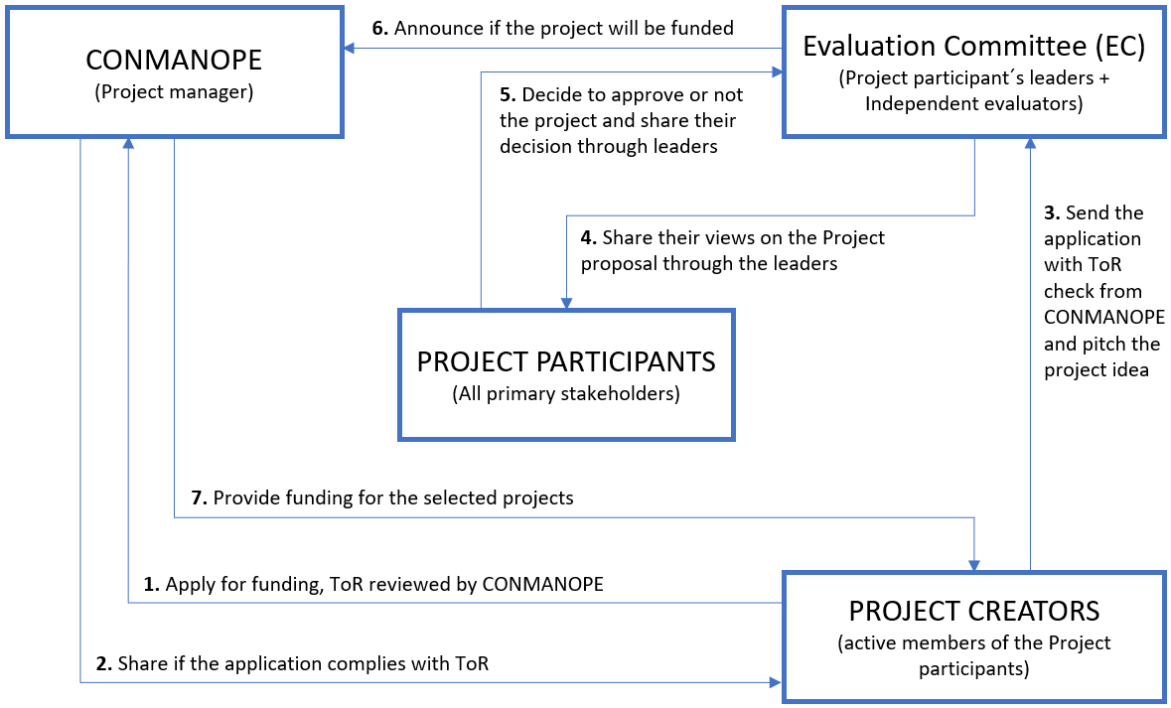
CONMANOPE will manage the distribution of the 40% of the benefits for Administrative and Expansion costs. The remaining 60% will be distributed as a fund, in which CONMANOPE will deploy funding every time a project is approved by the participants. To make rightful decisions on which projects should be funded, the creation of an Evaluation Committee is strongly recommended, as well as a Terms of Reference (ToR) sheet. The ToR should be the output of a participatory design with members of all the participating organisations, in order to make those minimum requierements for a project to be fair for all participants. For example, the members could agree that the ToR should include measures like "Presented projects should be proposed by members who have already constituted a formal business" or "Presented projects should have direct positive impacts on the mangrove ecosystem". If any members of the project participants decide (solely or collectively) to present a project, they should then apply. If the project application meets the requirements of the ToR, then it should pass to the second phase, which is to have the project application pitched and reviewed by an Evaluation Committee (EC). The EC should include all leaders (presidents) of each association and UNICA part of the blue carbon project, as well as a pool of independent evaluators. This composition will allow to cover both the inclusion of all project participants in the decision

making as well as the mitigation of risks coming from not properly assessing projects, thus avoiding bad investments.

Just as happened with the ToR design process, the EC constitution should also be born from a community thinking exercise and agreement. For the EC composition we suggest that the independent evaluators should have a ToR too, which should cover the mitigation of interest conflicts and the minimum requierements on technical expertise, solvency, ethics, among others.

After the EC members have listened to the project pitch, they should take time to review the project application and also, just for the community leaders part of the EC, they should schedule a meeting or make use of an already schedule meeting with their associates to share the project and make a decision on whether to support it or not. Then the EC should celebrate a publicly open meeting to share their collective decision to approve or reject the proposed project, as well as mentioning that the project applicant can try again as many times as needed, after considering their feedback on each application. Feedback should be shared at the open meeting and presented on paper, including all the issues for which the EC has rejected or approved the project, discussing each part of the project application in different sections. This will facilitate the applicants to understand what are they missing on their project ideas. Finally, CONMANOPE will transfer the funding needed to each of the awarded members.

The following diagram shows the organizational structure for the use of benefits from this Blue Carbon Project:



4.2 Legal and Regulatory Compliance

We have a SERNANP endorsement letter, as it is the Government entity in charge of land management for natural protected areas. A second letter states that the authorities have full informed consent about the project and its impacts, and they confirm it operate in full compliance with all national and international policies, laws and regulations.

Access to letter of endorsement:
https://drive.google.com/file/d/1z5naWl93kJ2KjIapu- 8z2anPGMgx9xZX/view?usp=share_link

Access to letter of full compliance:
http://foldersgd2.sernanp.gob.pe/index.php/s/xPmfa9wptb6TRkk

4.3 Financial Plan

CONMANOPE has secured funding to partially cover PV certification and project implementation costs thanks to the BCAF (Blue Carbon Accelerator Fund) with IUCN and the Australian Government as donors.

In case there´s an overhead expense to be covered with additional funding, CONMANOPE will negotiate with local potential buyers of PVCs to give cash in advance by securing them a preferred price at the moment of selling the PVCs (a strike price).

The development of nature-based businesses will create a new revenue stream for mangrove conservation funding, which is expected to grow enough to cover monitoring activities for the mangrove ecosystem in the long term. Estimates of its growth rate will be placed as soon as the business plans are developed to make realistic revenue projections.

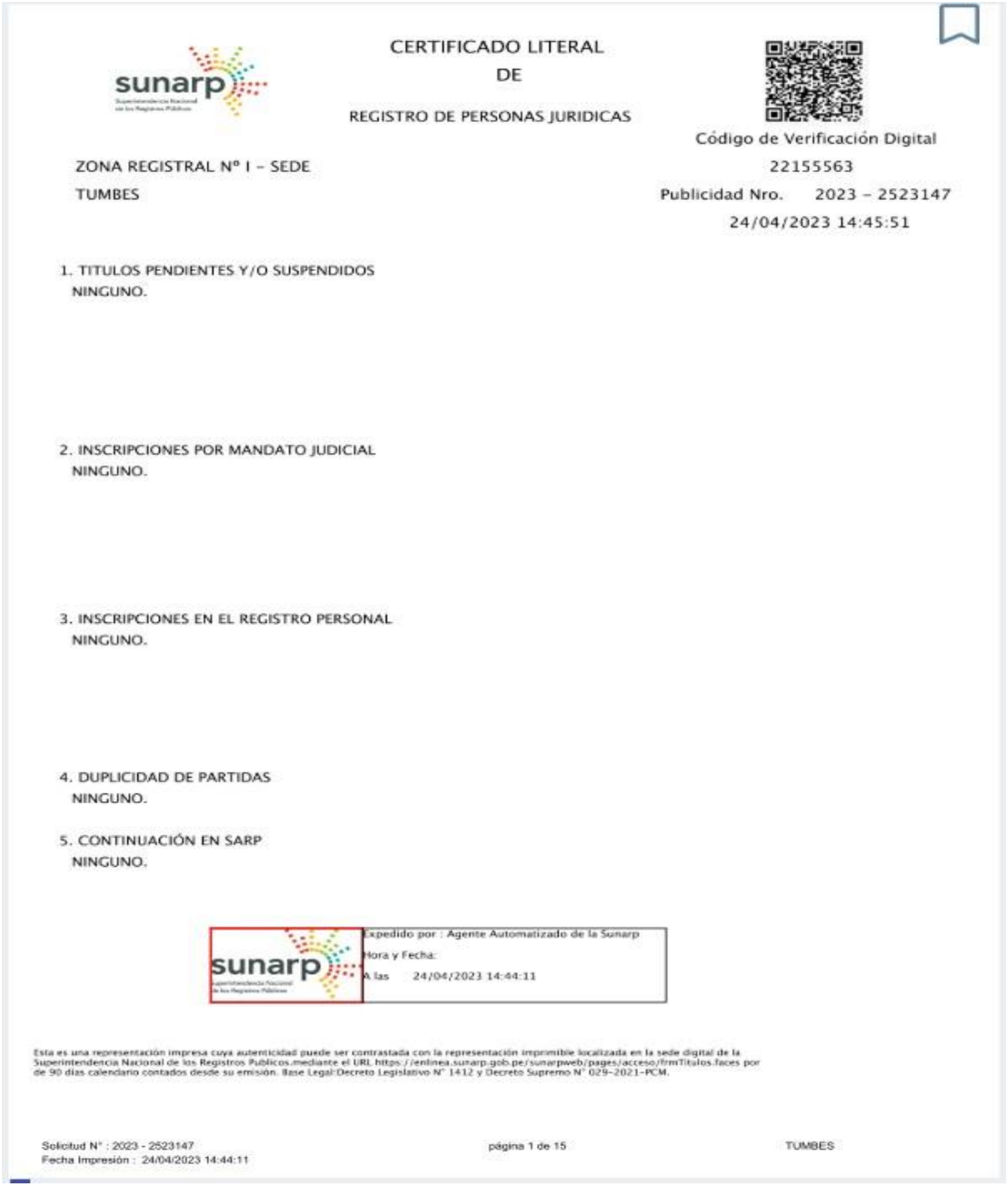
Annexes

Annex 1 – Project Boundaries

Provide geospatial data files for project region and project area boundaries:
https://drive.google.com/file/d/1eR2Ijbz_dtqdkTpGJPxUGMylesgQnIRj/view?usp=share_link

Annex 2 –Registration Certificate

Provide a copy of the project coordinator registration certificate:
https://drive.google.com/file/d/1KUL2857EtxSm-T-WAGuEN3d9YvDP1gtB/view?usp=share_link



CERTIFICADO LITERAL
DE
REGISTRO DE PERSONAS JURIDICAS

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ZONA REGISTRAL Nº I – SEDE
TUMBES

Publicidad Nro. 2023 – 2523147
24/04/2023 14:45:51

1. TITULOS PENDIENTES Y/O SUSPENDIDOS
NINGUNO.

2. INSCRIPCIONES POR MANDATO JUDICIAL
NINGUNO.

3. INSCRIPCIONES EN EL REGISTRO PERSONAL
NINGUNO.

4. DUPLICIDAD DE PARTIDAS
NINGUNO.

5. CONTINUACIÓN EN SARP
NINGUNO.

Expedido por : Agente Automatizado de la Sunarp
Hora y Fecha:
A las 24/04/2023 14:44:11

Esta es una representación impresa cuya autenticidad puede ser contrastada con la representación imprimible localizada en la sede digital de la Superintendencia Nacional de los Registros Publicos,mediante el URL https://enlinea.sunarp.gob.pe/sunarpweb/pages/acceso/frmTitulos.faces por de 90 dias calendario contados desde su emisión. Base Legal:Decreto Legislativo N° 1412 y Decreto Supremo N° 029-2021-PCM.

Solicitud N° : 2023 - 2523147
Fecha Impresión : 24/04/2023 14:44:11

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TUMBES

Annex 3 – Exclusion List

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

Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.	No
Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.	No
Transboundary trade in wastes, except for those accepted by the Basel Convention and its underlying regulations [11].	No
Any activity leading to an irreversible modification or significant displacement of an element of culturally critical heritage [12].	No
Production and distribution, or investment in, media that are racist, antidemocratic or that advocate discrimination against a part of the population.	No
Projects involving the planting or introduction of invasive species	No
Projects that increase the dependency of primary participants and other stakeholders on fossil fuels.	No

Notes:

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

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

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

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

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

[6] Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development. Employees must be at least 14 years of age, as defined in the ILO’s Declaration on the Fundamental Principles and Rights at Work (C138 – Minimum Age Convention, Article 2), unless local laws require compulsory school attendance or a minimum working age. In such circumstances, the highest age requirement must be used.

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

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

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

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

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

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

Annex 4 - Environmental and Social Screening

Topic	Risk Questions	Project Coordinator Response
Environmental and Social Risks		
Vulnerable Groups	Are there vulnerable or disadvantaged groups or individuals, including people with disabilities (consider also landless groups, lower income groups less able to cope with livelihood shocks/ stresses) in the project area, and are their livelihood conditions well understood by the project?	We have a stakeholder map, and we commit to update periodically the livelihood baseline. There aren´t groups or associations of solely disadvantaged people.
	Is there a risk that project activities disproportionately affect vulnerable groups, due to their vulnerability status?	Yes, but CONMANOPE will apply the SAS2 methodology (participatory design) to mitigate this risk.
	Is there a risk that the project discriminates against vulnerable groups, for example regarding access to project services or benefits and decision-making?	No, as it is not aligned with CONMANOPE´s values. What´s more, the application of SAS2 methodology (participatory design) will erase this risk.
Gender equality	Is there a risk of adverse gender impacts due to the project/ project activities, including for example discrimination or creation/exacerbation or perpetuation of gender-related inequalities?	Yes, that´s the reason why CONMANOPE will work with the UNICAs, to promote women leadership and participation.
	Is there a risk that project activities will result in adverse	No, because CONMANOPE has always welcomed women as members and has

	impacts on the situation of women or girls, including their rights and livelihoods? Consider for example where access restrictions disproportionately affect women and girls due to their roles and positions in accessing environmental goods and services?	governance principles that promote women participation and rights protection.
	Is there a risk that project activities could cause or contribute to gender-based violence, including risks of sexual exploitation, sexual abuse or sexual harassment (SEAH)? Consider partner and collaborating partner organizations and policies they have in place. Please describe.	No. Both CONMANOPE and the UNICAs are committed to gender equality and have never had SEAH problems.
Human Rights	Is there a risk that the project prevents peoples from fulfilling their economic or social rights, such as the right to life, the right to self-determination, cultural survival, health, work, water and adequate standard of living?	No. Project interventions and activities are made to improve livelihood for all people.
	Is there a risk that the project prevents peoples from enjoying their procedural rights, for example through exclusion of individuals or groups from participating in decisions affecting them?	Not at all. CONMANOPE wants to increase engagement rate of its members in decision making.
	Are you aware of any severe human rights violations linked to project partners in the last 5 years?	Not aware, not even suspicious.
Community, Health, Safety & Security	Is there a risk of exacerbating existing social and stakeholder conflicts through the implementation of project activities? Consider for example existing conflicts over land or natural resources, between communities and the state.	Yes. We are taking it into consideration and will manage it through dialogue sessions with stakeholders who currently stand against conservation activities and try to persuade them to protect the mangroves by showing and including them in the long terms' benefits.
	Does the project provide support (technical, material, financial) to law enforcement activities? Consider support to government agencies and to	No, because CONMANOPE members are the supported rangers.

	Community Rangers or members conducting monitoring and patrolling. If so, is there a risk that these activities will harm communities or personnel involved in monitoring and patrolling?	
	Are there any other activities that could adversely affect community health and safety? Consider for example exacerbating human-wildlife conflict, affecting provisioning ecosystem services, and transmission of diseases.	No, because land use has already been identified and limited to a specific length.
Labour and working conditions	Is there a risk that the project, including project partners, would lead to working conditions for project workers[1] that are not aligned with national labour laws or the International Labor Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work (discriminatory working conditions, lack of equal opportunity, lack of clear employment terms, failure to prevent harassment or exploitation, failure to ensure freedom of association etc.)?	No, both CONMANOPE and the UNICAs will guarantee ILO standards fulfilment for jobs prior to the hiring process.
	Is there an occupational health and safety risk to project workers while completing project activities?	Yes, the mangrove ecosystem represents a safety risk for park rangers, as they must conduct activity in wildlife zones. They all must have insurance to conduct these activities.
	Is there a risk that the project support or be linked to forced labour, harmful child labour, or any other damaging forms of labour?	No, because all tasks will be conducted by CONMANOPE.
Resource efficiency, pollution, wastes, chemicals and	Is there a risk that project activities might lead to releasing pollutants to the environment, cause significant amounts of waste or hazardous waste or materials?	No, current biomass solid waste is used for biogas and compost making.

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

GHG emissions	Is there a risk that the project will lead to significant consumption of energy, water or other resources, or lead to significant increases of greenhouse gases?	No, current monitoring activities incur in GHG emissions just for transportation purposes.
Access restrictions and livelihoods	Will the project include activities that could restrict peoples' access to land or natural resources where they have recognised rights (customary, and legal). Consider projects that introduce new access restrictions (eg. creation of a community forest), reinforce existing access restrictions (eg. improve management effectiveness and patrolling of a community forest) , or alter the way that land and natural resource access restrictions are decided (eg. through introducing formal management such as co-management).	No, the project will respect land tenure (in this case, the Government holds land and carbon rights); on the other hand, it will not introduce access restrictions of any kind, but only respect the legal restrictions placed by the government at the SNLMT and specific zones inside the ACAs (in which it is prohibited to deforest mangroves). In addition, there are specific seasons where fishing is prohibited to avoid the extinction of native species.
	Is there a risk that the access restrictions introduced /reinforced/altered by the project will negatively affect peoples' livelihoods?	No, as access restrictions will be the same but will be reinforced, and the livelihoods of people that made use of natural resources in prohibited zones will not be significantly affected, as they can move to other mangrove ecosystem zones to conduct their activities, or even join this project and improve the way they work.
	Have strategies to avoid, minimise and compensate for these negative impacts been identified and planned?	Not applicable.
Cultural heritage	Is the Project Area officially designated or proposed as a cultural site, including international and national designations?	Only ACA2 (Estero La Chepa) has a cultural heritage site, with 3.61 hectares of length (1.15% of the ACA). This zone recalls a historical battle conducted in Tumbes in the year 1532. Today it is used for educational and academic research purposes.
	Does the project site potentially include important physical cultural resources, including burial sites and monuments, or natural features or resources of cultural significance (eg. sacred sites and species, ceremonial	Yes, but there's no material risk as the limits for each zone are clearly settled and mangrove regeneration won´t reach the cultural site.

	areas) and is there risk that the project will negatively impact this cultural heritage?	
	Is there a risk that the project will negatively impact intangible cultural heritage? Consider for example cultural practices, social and cultural norms in relation to land and natural resources.	No, as CONMANOPE members are part of that cultural heritage.
Indigenous Peoples	Are there Indigenous Peoples[2] living within the Project Area, using the land or natural resources within the project area, or with claims to land or territory within the Project Area?	CONMANOPE members are considered as indigenous people. They use the project areas natural resources.
	Is there a risk that the project negatively affects Indigenous Peoples through economic displacement, negatively affects their rights (including right to FPIC), their self-determination, or any other social or cultural impacts?	No, the project aims to create economic opportunities, provide training and empower them.
	Is there a risk that there is inadequate consultation of Indigenous Peoples, and/or that the project does not seek the FPIC of Indigenous Peoples, for example leading to lack of benefits or inappropriate activities?	No, that´s the reason why the project´s potential expansion hasn´t been quantified: It may or may not be possible to arrive to an agreement with other indigenous people.
Biodiversity and sustainable use of natural resources	Is there a risk that project activities will cause adverse impacts on biodiversity (both in areas of high biodiversity value, and outside of these areas) or the functioning of ecosystems? Consider issues such as use of pesticides, construction, fencing, disturbance etc.	No, project activities don´t include the use of pesticides nor any other disturbance materials / factors.
	Is there a risk that the project will introduce non-native species or invasive species?	No, we only work with native species.
	Is there a risk that the project will lead to the unsustainable	No, CONMANOPE has been working for a sustainable use of ecosystem services since

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

	use of natural resources? Consider for example projects promoting value chains and natural resource-based livelihoods.	2016, including reproductive assistance of main commercial species.
Land tenure and conflicts	Has the land tenure and use rights in the project area been assessed and understood?	Thoroughly.
	Is there a risk that project activities will exacerbate any existing land tenure conflicts, or lead to land tenure or use right conflicts?	No, as CONMANOPE´s management has proved to be useful to protect mangroves and to maintain a good, fair relationship with the landowner (the government). That´s why SERNANP and the Local Government Representatives and delegates of the Ministry of Environment are backing our project.
Risk of not accounting for climate change	Have trends in climate variability in the project areas been assessed and understood?	No, we don´t have climate variability data yet.
	Has the climate vulnerability of communities and particular social groups been assessed and understood?	Not yet, but it will be considered and quantified with a baseline to be conducted in 2023.
	Is there a risk that climate variability and changes might influence the effectiveness of project activities (eg. undermine project-supported livelihood activities) or increase community exposure to climate variation and hazards? Consider floods, droughts, wildfires, landslides, cyclones, etc.	No, the project will increase community protection against climate risk.
Other – eg. cumulative impacts	Is there a risk that the project will contribute cumulatively to existing environmental or social risks or impacts, for example through introducing new access restrictions in a landscape with existing restrictions and limited land availability?	No, as it will continue the actual permits and restrictions defined by the government and stimulate other community members to engage in the project.
	Are there any other environmental and social risks worthy of note that are not covered by the topics and questions above?	Yes, the risks from pollution driven by mining and wastewater poured into the mangrove forest. CONMANOPE will increase surveillance to prevent this from happening, as well as environmental education and a potential investment project related to wastewater management.
Safeguard Provisions		
Stakeholder engagement	Has a stakeholder analysis been conducted that has identified all stakeholders that could	All stakeholders have been mapped out, but the baseline scenario is missing. We will deeply

	influence or be affected by the project, or is this still to be completed? Please describe.	analyse remaining stakeholders as soon as the Integrated Management Unit is set up.
	Are the local community and indigenous peoples statutory or customary rights to land or resources within the project area already clear and documented, or is further assessment required? Please describe.	Land rights are clearly documented for the project areas.
	Are local governance structures and decision-making processes described and understood (including details of the involvement of women and marginalized or vulnerable groups), or is further assessment required? Please describe.	We will provide the final version as soon as the workshops are executed.
	Are past or ongoing disputes over land or resources in the project area known and documented, or is there need for further assessment? Please describe.	There´s no land dispute.
Stakeholder consultation	Does the project have a Stakeholder Engagement Plan with clear measures to engage Vulnerable Groups, or is this plan still to be developed? Please describe.	The situation of some of the stakeholders is currently unknown, but mechanisms to engage properly with vulnerable groups have already been constituted.
	Has the Project Coordinator informed all stakeholders of the project, through providing relevant project information in an accessible format, or does this still need to be completed? Please describe.	The project has been shared through public press, social media and through in-person meetings at the SERNANP´s Office, with a previous calling to the stakeholders involved. See picture at: https://drive.google.com/file/d/1vi4iAqEQwikpQJMQjUQiGlq4RxQefHqG/view?usp=share_link
Free, Prior and Informed Consent	Has the project analysed and understood national and international requirements for Free Prior and Informed Consent (FPIC)? Please describe.	Yes, but on a national level only.
	Has the project identified potential FPIC rightsholders and potential representatives in local communities and among indigenous peoples, or is this	The SNLMT rightsholders have been identified. For the ACAs, a new mapping process must be conducted.

	still to be completed? Please describe.	
	Has the project worked with rightsholders and representatives of local communities and indigenous peoples to understand the local decision-making process and timeline (ensuring involvement of women and vulnerable groups), or is this still to be completed? Please describe.	No, it is a pending task that will be addressed when the ACAs co-managers arise.
	Has the project sought consent from communities to 'consider the proposed Project', and if so, where is this in principle consent documented? Please describe.	Yes, as CONMANOPE has shown its interest to local authorities, the land and carbon rights holders.
Grievance Mechanism	Does the project already have a Grievance Mechanism, or is this still to be established? Please describe.	No, CONMANOPE hasn´t worked with Grievance Mechanisms in the past but will do so to comply with PV standards.
	For projects with a GRM, is this accessible to project affected people? Please describe.	N.A.

Annex 5 – Notification of Relevant Authorities

PERÚ | Ministerio del Ambiente | Servicio Nacional de Áreas Naturales Protegidas por el Estado | Santuario Nacional los Manglares de Tumbes | Siempre con el pueblo

"Año del Fortalecimiento de la Soberanía Nacional"

CUT Nº 039478-2022

Tumbes, 15 de noviembre del 2022

CARTA Nº 041-2022-SERNANP-SNLMT-J

Señor.
PLAN VIVO FOUNDATION
4 Gayfield Place Lane
Edinburgh
EH1 3NZ

Asunto : Respaldo al proyecto "STRENGTHENING THE RESILIENCE OF PERU'S LARGEST MANGROVE FOREST" por parte de la JSNLMT.

Es grato dirigirme a ustedes, para saludarlos muy cordialmente y a su vez expresar el respaldo de la Jefatura del Santuario Nacional Los Manglares de Tumbes (SNLMT) al proyecto "STRENGTHENING THE RESILIENCE OF PERU'S LARGEST MANGROVE FOREST" que con el apoyo financiero de Blue Carbon Accelerator Fund (BCAF) viene implementando el Consorcio Manglares del Noroeste del Perú.
El proyecto busca verificar el potencial de sumidero de carbono del área y buscará la certificación de créditos de carbono azul para el mercado voluntario. En ese contexto se está presentando el PIN para la eventual revisión del Estándar Plan Vivo.

La Jefatura del Santuario Nacional Los Manglares de Tumbes, es parte del Servicio Nacional de Áreas Naturales Protegidas por el Estado – SERNANP, entidad adscrita al Ministerio del Ambiente, y en su calidad de autoridad ambiental promueve el desarrollo económico, social y ambiental en el ámbito del ecosistema manglar de la región de Tumbes mediante la ejecución de actividades y proyectos con enfoque por resultados, priorizados participativamente con la población.

En la actualidad venimos Co administrando y apoyando al Consorcio Manglares del Noroeste del Perú en la gestión del Santuario Nacional Los Manglares de Tumbes en el marco de la implementación del contrato de administración de esta área protegida.

Tenemos conocimiento del proyecto antes mencionado y el mismo se inserta en los objetivos de gestión del área protegida y nuestro rol se orientará a velar porque el mismo se implemente en el marco de las políticas y normatividad vigente.

En ese sentido, la Jefatura del SNLMT está comprometida en brindar el apoyo institucional necesario para alcanzar los objetivos previstos en este proyecto.

Sin otro particular, me despido enviándoles un cordial saludo.

Atentamente.

Ing. Rosa Liliana Garcia Garcia
Jefe del SN Los Manglares de Tumbes.
SERNANP-Tumbes

C.c.
- Archivo.

Av. Panamericana Norte Nº 1739
E-mail: snmanglaresdetumbes@sernanp.gob.pe
Telefax: 072-526489
Tumbes – Perú

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PERÚ | Ministerio del Ambiente | Servicio Nacional de Áreas Naturales Protegidas por el Estado | Dirección de Gestión de las Áreas Naturales Protegidas | Siempre con el pueblo

"DECENIO DE LA IGUALDAD DE OPORTUNIDADES PARA MUJERES Y HOMBRES"
"AÑO DEL FORTALECIMIENTO DE LA SOBERANÍA NACIONAL"

Lima, 14 de noviembre de 2022

CARTA N° 0854-2022-SERNANP-DGANP

Señores
PLAN VIVO FOUNDATION
4 Gayfield Place Lane
Edinburgh
EH1 3NZ
Presente.-

Asunto : Respaldo al proyecto "STRENGTHENING THE RESILIENCE OF PERU'S LARGEST MANGROVE FOREST" por parte de DGANP

Es grato dirigirme a ustedes, para saludarlos muy cordialmente y a su vez expresar el respaldo de nuestra institución al proyecto "STRENGTHENING THE RESILIENCE OF PERU'S LARGEST MANGROVE FOREST" que con el apoyo financiero de Blue Carbon Accelerator Fund (BCAF) viene implementando el Consorcio Manglares del Noroeste del Perú. Este proyecto busca verificar el potencial de sumidero de carbono del área y la certificación de créditos de carbono azul para el mercado voluntario. En ese contexto se está presentando el PIN para la eventual revisión del Estándar Plan Vivo.

El Servicio Nacional de Áreas Naturales Protegidas por el Estado – SERNANP, entidad adscrita al Ministerio del Ambiente, y en su calidad de autoridad en conservación, y como parte de su estrategia promueve el desarrollo económico, social y ambiental en el ámbito del ecosistema manglar de la región de Tumbes mediante la ejecución de actividades y proyectos con enfoque por resultados, priorizados participativamente con la población. En la actualidad se viene co-administrando y apoyando al Consorcio Manglares del Noroeste del Perú en la gestión del Santuario Nacional Los Manglares de Tumbes en el marco de la implementación del contrato de administración de esta área natural protegida.

Siendo conocedores del proyecto antes mencionado y el mismo se inserta en los objetivos de la gestión del área natural protegida; nuestro rol se orientará a velar porque el mismo se implemente en el marco de las políticas y normatividad vigente. En ese sentido, desde la Dirección de Gestión está comprometida en brindar el apoyo institucional necesario para alcanzar los objetivos previstos en este proyecto.

Sin otro particular, me despido enviándoles un cordial saludo.

Atentamente,

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Dirección: Calle Diecisiete N° 355, Urb. El Palomar - San Isidro Lima-Perú
Teléfonos: (51 1) 717-7500 / 225-2803
Fax: (51 1) 475-1555
Web: www.sernanp.gob.pe
Email: sernanp@sernanp.gob.pe

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