



**GREEN
CLIMATE
FUND**

Meeting of the Board
2 – 5 November 2015
Livingstone, Republic of Zambia
Provisional Agenda Item 14*

GCF/B.11/04/Add.01

15 October 2015

Consideration of funding proposals – Addendum

Funding proposal package for FP001

Summary

This addendum contains the following two parts:

- (a) A funding proposal entitled “Building the Resilience of Wetlands in the Province of Datem del Marañón in Peru” submitted by Profonanpe; and
- (b) A no-objection letter issued by the national designated authority or focal point.

These documents are presented as submitted by the accredited entity and the national designated authority or focal point, respectively.

* The agenda item number will be determined when the final sequence of items in the provisional agenda is confirmed by the Co-Chairs.

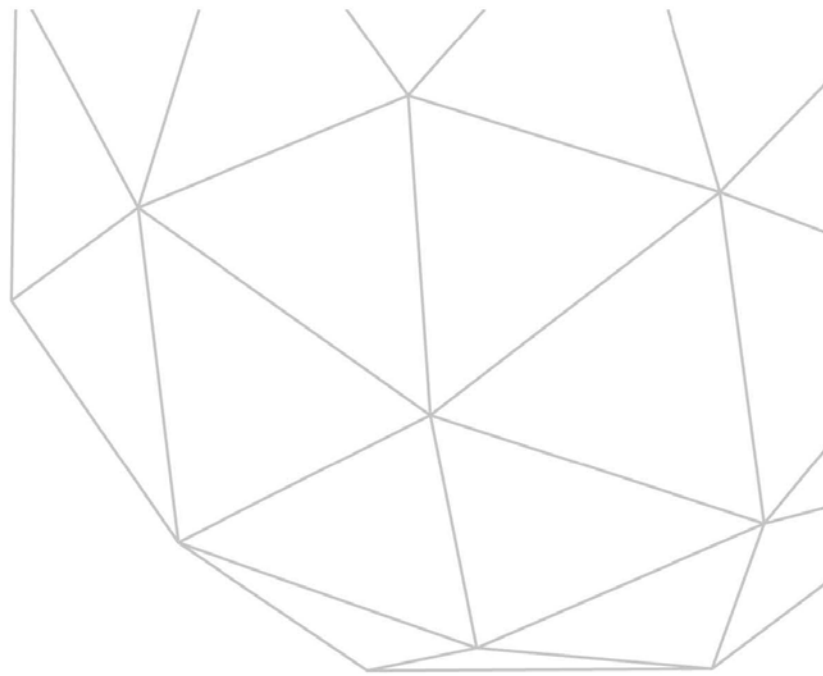
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Funding proposal submitted by the accredited entity

No-objection letter issued by the focal point



GREEN
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Funding Proposal

Version 1.0

The Green Climate Fund (GCF) is seeking high-quality funding proposals.

Accredited entities are expected to develop their funding proposals, in close consultation with the relevant national designated authority, with due consideration of the GCF's Investment Framework and Results Management Framework. The funding proposals should demonstrate how the proposed projects or programmes will perform against the investment criteria and achieve part or all of the strategic impact results.

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Note to accredited entities on the use of the funding proposal template

- Sections **A, B, D, E** and **H** of the funding proposal require detailed inputs from the accredited entity. For all other sections, including the appraisal summary in section **F**, accredited entities have discretion in how they wish to present the information. Accredited entities can either directly incorporate information into this proposal, or provide summary information in the proposal and cross references to other project documents such as project appraisal documents.
- The total number of pages for the funding proposal (excluding annexes) is expected to not exceed 50.

Please submit the completed form to:

[<fundingproposal@gcfund.org>](mailto:fundingproposal@gcfund.org)

Please use the following naming convention for the filename:

"[FP]-[Agency Short Name]-[Date]-[Serial Number]"

A.1. Brief Project / Programme Information

A.1.1. Project / programme title	Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru	
A.1.2. Project or programme	Project	
A.1.3. Country (ies) / region	Peru	
A.1.4. National designated authority(ies)	Ministry of Environment (MINAM)	
A.1.5. Accredited entity	PROFONANPE	
A.1.5.a. Access modality	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> International	
A.1.6. Executing entity / beneficiary	Executing Entity: PROFONANPE Beneficiary 20,413 direct and indirect beneficiaries from 120 indigenous communities of the Pastaza and the Marañón–Morona Basins, Provincial Municipality of Datem del Marañón	
A.1.7. Project size category (Total investment, million USD)	<input checked="" type="checkbox"/> Micro (≤ 10) <input type="checkbox"/> Medium ($50 < x \leq 250$)	<input type="checkbox"/> Small ($10 < x \leq 50$) <input type="checkbox"/> Large (> 250)
A.1.8. Mitigation / adaptation focus	<input type="checkbox"/> Mitigation <input type="checkbox"/> Adaptation <input checked="" type="checkbox"/> Cross-cutting	
A.1.9. Date of submission	15 July 2015	
A.1.10. Project contact details	Contact person, position	Mr. Alberto Paniagua, Executive Director
	Organization	PROFONANPE
	Email address	<apanigua@profonanpe.org.pe>
	Telephone number	+51 1 218 1097
	Mailing address	Av. Javier Prado Oeste 2378, San Isidro, Lima, Peru

A.1.11. Results areas (mark all that apply)

Reduced emissions from:	
<input type="checkbox"/>	Energy access and power generation (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
<input type="checkbox"/>	Low-emission transport (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
<input type="checkbox"/>	Buildings, cities and industries and appliances (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
<input checked="" type="checkbox"/>	Forestry and land use (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)
Increased resilience of:	
<input checked="" type="checkbox"/>	Most vulnerable people and communities (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
<input type="checkbox"/>	Health and well-being, and food and water security (E.g. climate-resilient crops, efficient irrigation systems, etc.)
<input type="checkbox"/>	Infrastructure and built environment (E.g. sea walls, resilient road networks, etc.)
<input type="checkbox"/>	Ecosystem and ecosystem services (E.g. ecosystem conservation and management, ecotourism, etc.)

A.2. Project / Programme Executive Summary (max 300 words)

The project seeks to enhance the resilience capacity of the indigenous communities living in the rich carbon stock wetland ecosystem in the Province of Datem del Marañón (PDM) in the Region¹ of Loreto, Peru, improve their livelihoods and to reduce greenhouse gas (GHG) emissions from deforestation. The target population is primarily low-income indigenous peoples from seven ethnic groups. The project aims to create social capital and agreed plans to entrust the management of the natural resource base to the indigenous communities.

The proposed activities seek to: (a) facilitate the participatory preparation of land-use and operational management plans; (b) entrust natural resources management to indigenous communities and empower women in the decision-making process; and (c) strengthen and expand commercially viable and sustainable bio-businesses of non-timber forest products. All activities foster empowerment and community ownership, improve livelihoods, enhance learning opportunities, and consolidate indigenous peoples' basic rights. All the proposed activities are community-based adaptation and climate change mitigation good practices, which are complemented by strong monitoring and evaluation systems. The project includes a science and technology component to enhance the knowledge base in order to guide future activities aimed at preserving the carbon stock and enhancing community well-being.

The total carbon stock in the swamps of Datem del Marañón is estimated at around 3,780 million tonnes of carbon dioxide equivalent (Mt CO₂ eq). Based on data provided by MINAM, a deforestation reference scenario for the project area was defined as the average of the last 10 years of observation. The estimated avoided deforestation over a 10-year period amounts to 140.6 hectares (ha) of *aguajales* (palm swamp forest) and 4,720 ha of terra firma forests, equivalent to 2.63 Mt CO₂ eq.

Climate change is expected to have profound impacts on forest and swamp ecosystems, with more frequent droughts and changes in primary productivity affecting peoples and ecosystems.

A.3. Project/Programme Milestone

Expected approval from accredited entity's Board (if applicable)	6 November 2015
Expected financial close (if applicable)	Not applicable
Estimated implementation start and end dates	Start: <u>1 March 2016</u> End: <u>31 February 2021</u>
Project/programme lifespan	<u>5</u> years <u>0</u> months

¹ In this document, the term "region" corresponds to that concept of subnational government as defined according to Peruvian legislation.

B.1. Description of Financial Elements of the Project / Programme

According to Profonanpe's administrative guidelines, project management is done by results. Goals, products deadlines and the annual operational budget are programmed in an Annual Operation Plan (POA) according to templates established by Profonanpe. This planning instrument must be approved by the Project Administration Council (PAC) or Steering Committee. It facilitates monitoring and evaluation of the project and helps reaching expected results and objectives.

Cost breakdown

The project's cost structure is shown in table B.1.1, in which funding is presented in seven categories that will be described in greater detail in this section. A detailed budget is presented in the annex section to the feasibility study.

**Table B.1.1. Project cost structure
(Millions United States dollars)**

ITEMS	GCF	PROFONANPE	KOREAN GOV.	TOTAL
A. Direct labour	0.93	1.02		1.95
B. Travel, transportation and per diem	0.41			0.41
C. Workshops and trainings	0.93			0.93
D. Procurement (consulting, research, etc.)	3.46	0.06	1.80	5.32
E. Expendable supplies	0.40			0.40
C. Communications	0.08			0.08
G. Other direct costs	0.02			0.02
TOTAL ESTIMATED COST	6.24	1.07	1.80	9.11

Note: Totals may not be exact due to rounding.

Direct labour

The project will have eight full-time employees, six of whom will work in the field and two in head office. Only two staff members will perform administrative and clerical work and will be based in the field. The rest will be professional staff conducting technical assistance work: four of them in the field and two in head office. The project will have a Project Manager who will be based in the field and will conduct short visits to head office, supported by three professionals: one in charge of natural resource management; other overseeing bio-businesses; and the third in charge of sociocultural aspects and capacity-building. The team in the field will be supported by two professionals in head office: one focused on climate change analysis, and the other focused on knowledge management, and monitoring and evaluation. It is important to stress that the remoteness of the project area and the difficult nature of the living conditions would need to be compensated by appropriate salaries for the highly qualified personnel required for successful project implementation.

Travel, transportation and per diems

The team will travel constantly to the region and will use its office in San Lorenzo as its base of operations. Visits to communities will be conducted using a boat owned by the project and by rentals of boats or airplanes as needed. Once a month, each member of long-term personnel will travel to and from the field and once there will travel constantly to visit communities across the province's seven territorial units. Long-term personnel as well as short-term consultants will stay at the project's house in San Lorenzo and will stay in hotels during their visits to various communities. Project-budgeted travel and per diems take into account the most recent information gathered in the region. The budget also includes travel outside the country for short business development visits by delegations of community representatives

from bio-businesses, to attend trade fairs or to meet potential buyers or investors, as long as the production and technology applied is tested locally.

Workshops and trainings

In addition to technical assistance work that will be delivered, with an emphasis on on-the-job training, the project will conduct formal training and capacity-building activities under three modalities: (a) regional training delivered by staff or consultants in the field; (b) training in Lima, Peru, or other cities delivered by academic institutions or other organizations; and (c) scholarship programmes for selected participants. Courses delivered in San Lorenzo will include participants from selected communities and will cover a variety of topics related to specific tasks under project implementation. The budget includes travel costs and per diems for lodging, meals and incidentals, rental of venues, materials and equipment. Scholarships will cover travel for participants, tuition, room and board, and materials.

Procurement

Procurement costs include various categories, such as office equipment for the Lima and San Lorenzo offices; engines for and refurbishment of the existing boat; software and digital information mainly related to Geographic Information System (GIS) and geospatial information; and communications and marketing using digital and printed materials. Four important categories are included: (a) consulting services; (b) research; (c) investments in bio-businesses; and (d) special programmes funded by co-financing institutions. *Consulting activities* are divided into five groups, including studies related to Environmental Management Plans (EMPs) for indigenous groups, land-use management plans, bio-businesses (process and marketing), natural resources plans, as well as land titling consulting expenses. *Research activities* will be focused on spatial data collection, focus groups, climate change and conservation analysis, and the collection and analysis of flora and fauna data. *Investments in bio-businesses* include purchases of equipment, maintenance costs, spare parts, and other expenses for inputs, registration, operating capital, and fuel and energy consumption. A separate agreement is in negotiation with the Korean Agency for the implementation of solar-energy studies for bio-businesses.

Expendable supplies

The expendable supplies category includes those related to the Lima and San Lorenzo offices, such as office supplies, utilities, office equipment, rent and miscellaneous.

Communications

This category includes expenses for Internet/telephone/fax/SIM cards, mobile phones and other expenses (radio, etc.).

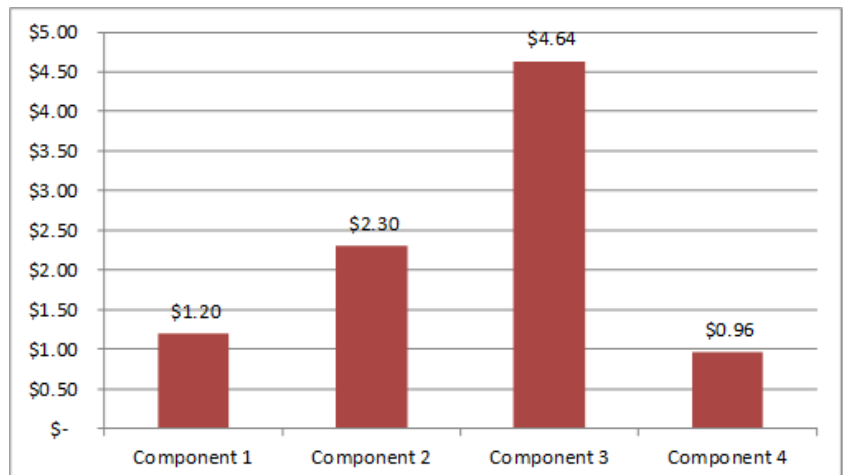
Other direct costs

These include medical exams and immunizations, report preparation and reproduction costs, and translation services.

Allocation of funds per component

The project allocates most of the funds, or 51 per cent of the total, to activities related to Component 3 output: resilience built through sustainable bio-businesses in natural resources management areas.

Figure R.1.1. Allocation of funds per component (in million USD)



Component 1 output: strengthened institutional capacity in government organizations has the project's third largest

allocation of resources: USD 1.20 million or 13.2 per cent. This component is geared toward supporting government organizations in the development of the land-use plan (*Plan de Ordenamiento Territorial - POT*), which is the consolidation of all EMPs. The project will support the organization of meetings and the dissemination of plans from the seven different territorial units. Other activities include the establishment new environmental conservation areas (*Áreas de Conservación Ambiental - ACA*) and the support for the climate change (CC) strategy for the province as well as the provincial ecological and economic zoning (*Zonificación Ecológica y Económica - ZEE*) development.

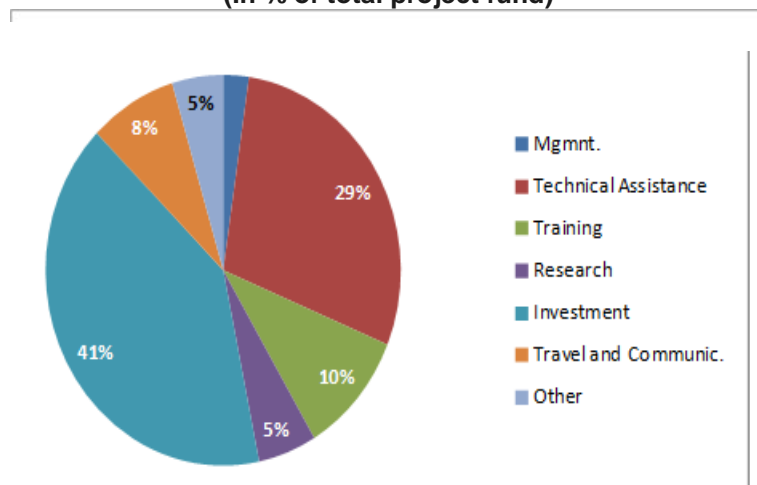
Component 2 output: strengthened capacity of community-based institutions is the second largest component in terms of the allocation of resources with USD 2.30 million dedicated to supporting community based organizations mainly to develop their EMPs for indigenous groups and allocating funds for studies, training activities and meetings at which to discuss the plan. Other relevant activities in this category include the provision of support to indigenous associations that will facilitate the implementation of bio-businesses. The expansion of bio-businesses involves the implementation operational plans for natural resources as well as the development of the management tools of the ACA.

Component 3 output: resilience built through sustainable bio-businesses in natural resources management areas has the largest percentage with 51 per cent of the total budget and is fully aimed at providing support for bio-businesses, including for activities such as providing technical assistance in the market evaluation of a bio-business product; the design and development of a business plan; and support for implementation, including investments in equipment, maintenance, supplies, marketing nationally and internationally; and management, especially in finance and accounting.

Under this component, the Government of the Republic of Korea will provide USD 1.8 million in co-finance to assist bio-businesses in developing clean energy solutions for their operations. This component is important so as to decrease the emissions and pollution impacts of the alternative diesel generators; however less than full materialization of this co-financing would not cause the failure of the bio-business component.

Component 4 output: science, technology, knowledge management and monitoring and evaluation systems established has 10.5 per cent of the total budget and includes all expenses for communications, promotion materials, production of printed and digital media, systems to collect and systemize reports, analysis and studies, and all other products related to the website.

**Figure B.1.2. Allocation of funds per type of expense
(In % of total project fund)**



Allocation by type of expense

Most project expenses (41 per cent) are allocated to the funding of investments in the bio-businesses sector, including equipment purchases, maintenance costs, purchase of spare parts, and other expenses for registration, working capital, and fuel and energy consumption. The second expense category with 29 per cent is for the provision of technical assistance services, including all studies needed to develop plans for the seven territorial units and the POT at provincial level. Funds within this category are allocated to pay full-time technical staff working in the field and at PROFONANPE headquarters, as well as short-term consultants (Figure B.1.2).

Allocation by activity

The majority of funds are allocated to the implementation of natural resource operational plans, followed by the allocation of funds to the creation of bio-business units and solar energy. Other activities with a significant percentage of allocations are the development of EMPs and innovations in bio-business.

Table B.1.2 presents the allocation of funds per activity.

**Table B.1.2. Allocation of funds per activity
(Millions of United States dollars)**

COMPONENT	SUB-COMPONENT	GCF	PROFON ANPE	KOREA	TOTAL AMOUNT
COMPONENT 1 OUTPUTS: Strengthened Institutional Capacity in Government Organizations	Indigenous peoples registration	0.07			0.07
	Land-use plan (POT) development	0.15	0.06		0.21
	New ACA establishment	0.12	0.05		0.17
	Conflict-resolution authority granting to ACAs	0.04			0.04
	Provincial climate change (CC) strategy development	0.04			0.04
	Climate monitoring system implementation	0.13	0.06		0.19
	Provincial ecological and economic zoning (ZEE) development	0.21	0.09		0.29
	Region's CC strategy updating	0.07			0.07
	Development of white papers on legislation for resource management	0.04			0.04
	Produce GIS-based information for environmental monitoring	0.08			0.08
Total		0.95	0.26	-	1.20
COMPONENT 2 OUTPUTS: Strengthened capacity of community based Institutions	CC observatory creation	0.12			0.12
	Implementation of natural resources operational plans	0.85	0.28		1.13
	Development and implementation of ACAs' management tools	0.28			0.28
	Periodic updates of ACAs' monitoring of management plans	0.16			0.16
	Associations creation	0.12			0.12
	Environmental management plan (EMP) for indigenous groups	0.43	0.08		0.51
Total		1.94	0.36	-	2.30
COMPONENT 3 OUTPUTS: Resilience built through sustainable bio- businesses in natural resources management areas	Creation of financially sustainable bio-businesses	1.22	0.14		1.35
	Bio-businesses clean energy solutions			1.80	1.80
	Bio-business initiatives using innovations in production methods and tools	0.56			0.56
	Development of commercialization strategies	0.32			0.32
	Introduction of certification programs	0.32			0.32
	Establishing international commercial links	0.28			0.28
Total		2.70	0.14	1.80	4.64
COMPONENT 4 OUTPUTS: Science, technology, knowledge management and monitoring and evaluation systems established	Design of technology enhancement for productive bio-businesses	0.10			0.10
	Hydrological modelling	0.13			0.13
	Development flood and drought contingency plans	0.16			0.16
	Systematization of anthropological, economic and management observations	0.07			0.07
	Project description, lessons learned and monitoring and evaluation	0.02	0.31		0.33
	Communication strategy development	0.07			0.07
	Dissemination brochures production and distribution	0.06			0.06
	Website development	0.03			0.03
	Project reports distributed	0.03			0.03
Total		0.65	0.31	-	0.96
GRAND TOTAL		6.24	1.07	1.80	9.11

Note: Totals may not be exact due to rounding

B.2. Project Financing Information							
	Financial Instrument	Amount	Currency	Tenor	Pricing		
(a) Total project financing	(a) = (b) + (c)	9.11	<u>million USD</u> (\$)				
(b) Requested GCF amount	(i) Senior loans	.....	<u>Options</u>	() years	() %		
	(ii) Subordinated loans	.....	<u>Options</u>	() years	() %		
	(iii) Equity	.....	<u>Options</u>		() % Internal rate of return (IRR)		
	(iv) Guarantees	.....	<u>Options</u>				
	(v) Reimbursable grants *	.....	<u>Options</u>				
	(vi) Grants *	6.24	<u>million USD</u> (\$)				
	Total requested (i+ii+iii+iv+v+vi)	6.24	<u>million USD</u> (\$)				
(c) Co-financing	Financial Instrument	Amount	Currency	Name of Institution	Tenor	Pricing	Seniority
	<u>Grant</u>	1.07	<u>million USD</u> (\$)	PROFONANPE	() years	() %	<u>Options</u>
	<u>Grant</u>	1.80	<u>million USD</u> (\$)	Government of the Republic of Korea	() years	() %	<u>Options</u>
	<u>Grant</u>		<u>million USD</u> (\$)			() % IRR	<u>Options</u>
	<u>Grant</u>		<u>million USD</u> (\$)				<u>Options</u>
Lead financing institution: PROFONANPE							
Additional information can be found in the feasibility study and letters of commitment for co-financing the annex. A detailed description of disbursements related to milestones is presented in table 5 of the feasibility study.							

B.3. Fee Arrangement (if applicable)

Fee arrangement for the proposed project is to be aligned with the Board's decision on fees, which is expected to be taken at the eleventh meeting of the Board.

PROFONANPE estimates indirect costs are equivalent to 10 per cent of total project budget for managing and administration services. The estimate is based on the usual expenses of PROFONANPE, including management, administration and accounting fees. PROFONANPE will make no other charges to project resources unless they are clearly identified as a direct cost strictly related to project activities or products.

B.4. Financial Market Overview (if applicable)

No other potential funding sources have been identified. Climate change mitigation activities have concentrated resources in the Green Climate Fund (GCF) as a strategy to centralize the decision-making process, thus providing

clear, transparent and fact-based guidance and developing funding criteria through a consensus-building process between donors and developed and developing nations.

Indigenous people lack access to finance, often not even being in the public registry which is a fundamental requirement to gain funding. In addition, bio-businesses are not attractive investment opportunities for banks because of their high risk. Due to this, private sector financing is not available. The project, however, will aim to address these barriers in order to allow members of the indigenous community to access funding.

PROFONANPE has sought financial support to co-finance the proposed activities. Only the Government of the Republic of Korea has agreed to support activities under Component 3 – resilience built through sustainable bio-businesses in natural resources management areas, through a technology-enhancement grant.

C.1. Strategic Context

The project is located in the western middle portion of the Amazon Basin, in the Province of Datem del Marañón, Loreto Region, Peru. The main feature of the project area is the presence of the alluvial cone of the Pastaza–Marañón Rivers. This alluvial cone is home to large extensions of swamps, swamp forests, lakes and floodplains partially inundated each year. Associated with these landforms are rich organic soils, better classified as peat. Most of the area is covered by forest, with some areas dedicated to subsistence farming and cattle ranching.

San Lorenzo is the seat of the provincial government, with a population of 6,034 – 12 per cent of the provincial population of 49,446 (2007 census). All other towns and villages are smaller, with populations of fewer than 2,000.

Datem del Marañón's population is distributed in 284 population centres. Poverty affects over 75 per cent of the population, while extreme poverty affects 42 per cent, reaching 61 per cent in Morona (the country's third-poorest district). It is estimated that 22,329 people speak Spanish as their main language; the remainder of the population – over half – only speak their native language. Seven indigenous peoples live in the province: Achuar, Awajún, Chapra, Kandozi, Quechua, Wampis and Shawi, each characterized as having its own territory, culture and language. Each of these indigenous peoples traditionally belongs to an ethnic group. The ultimate authority of native or indigenous communities is vested in the *apu* or *curaca* (native terms for the leader of the local indigenous communities).

It should be noted that the *mestizo* (mixed race) population is growing faster than that of indigenous communities, and includes in-migration from other regions. This creates tensions over access to land and other natural resources, forests, fisheries, mining and oil extraction.

The carbon stock

In the Amazon Basin, researchers (such as Saatchi, Baccini and Mitchard) have indicated the existence of large stocks in the form of carbon stored in peatlands. Recent work by Draper *et al.* (2014)² on the Pastaza–Marañón Basin (PMB) revealed the presence of extensive and deep accumulations of peat that contain around 3.14 Pg C in an area of 35,600 km².

These results highlight the occurrence of different peat formations. In the PMB, peat has been found beneath *aguajales*, *varillal* ("pole" forests) and almost entirely herbaceous 'open' communities. Its vegetation types and the amount of associated below-ground carbon have the potential to guide regional land-use planning exercises to

² Draper FC, Roucoux KH, Lawson IT, Mitchard ETA, Honorio Coronado EN, Lähteenoja O, Torres Montenegro L, Valderrama Sandoval E, Zaráte R and Baker TR. 2014. The distribution and amount of carbon in the largest peatland complex in Amazonia. *Environmental Research Letters* 9 (124017) (12pp)

minimize the risks of disturbing and/or provoking large-scale carbon losses.

The main results are summarized in table C.1.1 below:

Table C.1.1. Summary of above- and below-ground carbon stocks in different peatland vegetation types within the Pastaza–Marañón Basin and mean values

Peatland ecosystem type	Area (km ²)	Peat thickness (cm)	Carbon (C) content (%)	Above-ground C (t/ha)	Below-ground C (t/ha)	Total C (t/ha)
Pole forest	3,686.0	315	50.5	81	1,340	1,422
Palm swamp	27,732.0	173	44.0	95	748	842
Open peatland	4,181.0	265	48.5		662	662
Terra firma forests				63–190	132	250

The Amazon peatlands in Peru remain almost entirely intact, although they face an increasing range of threats, including degradation from large-scale cutting of palm trees for fruit, hydrocarbon extraction, expansion of the agricultural frontier, illegal logging and palm oil plantation expansion. We therefore suggest that the peatlands of the PMB should be a priority for carbon-focused conservation strategies.

PDM has an area of 4,766,879 ha, of which 1,226,646 ha are *aguajales*, based on current data provided by MINAM. The carbon stock stored as carbon in the swamps in Datem del Marañón is estimated at around 1,032 Mt, including above- and below-ground mean carbon content (table C.1.1).

Draper *et al.*'s research (2014) was selected to assess the carbon stock in the area of interest, based on the following considerations: (a) research and field studies had been conducted in the project area; and (b) several remote-sensing products were combined to increase reliability in determining forest/peatland categories; (c) the completeness of the fieldwork, which included four categories of data: (i) 218 ground reference points, used for remote-sensing classification; (ii) 24 forest census plots, used to estimate the quantities of above-ground carbon; (iii) 218 peat-thickness measurement points, used to determine the quantities of below-ground carbon; and (iv) 33 peat cores, from which C content and dry bulk density were measured.

Threats to carbon stock

The following specific threats to the existence of the large carbon stock in the Province of Datem del Marañón's forests and *aguajales* have been identified:

Deforestation. The MINAM National Directorate for Territorial Planning designed a deforestation map (2012) which indicated that deforestation had reached 8,033,216 ha by 2009 at national level. This suggests that the deforestation rate was 91,100 ha/year between 2000 and 2005, and had increased to 163,300 ha/year between 2005 and 2009 (MINAM 2013), amounting to a 123,000 ha/year rate for 2000–2009. The main deforestation spots are located in the lower and mid-altitude areas of the mountainous forests in the regions of Cajamarca, Amazonas and San Martín and in the terraces and low hills of the regions of Loreto and Ucayali (lowland forest). The regions with the highest deforestation rates, according to a 1995 forest map, are San Martín (57,521 ha/year) and Loreto (54,712 ha/year) (MINAM 2009). Nevertheless, the 2009 deforestation map suggests that for the 2000–2009 period, regional deforestation rates decreased to 17,395 ha/year in San Martín and 23,454 ha/year in Loreto. Loreto's deforestation accounts for nearly 20 per cent of the overall deforestation for this period. From 2009 to 2011, the highest rates were found in San Martín, Loreto and Ucayali (table C.1.2).

Table C.1.2 Deforestation rate in the Peruvian Amazon, 2009–2011

Department	Deforestation rate 2009–2010 (ha/year)	Deforestation rate 2010–2011 (ha/year)
San Martín	39,760	30,798
Loreto	24,211	36,200
Ucayali	16,342	9942
Huánuco	12,785	7778
Madre de Dios	5402	5959
Pasco	3998	3938
Amazonas	3981	4542
Cusco	740	1458
Junín	333	1847

Source: MINAM 2012

The project will work in Province of the Datem del Marañon (PDM) in the Loreto region. The historical deforestation statistics have been estimated by MINAM and provided to PROFONANPE for this proposal, as indicated in figure C.1.1 and in map 10.4 in section I. The data indicate that in this century the average deforestation rate at provincial level is 2,234 ha/year and the loss of *aguajales* averages 102 ha/year. The historical loss of *aguajales* is depicted in figure C.1.2. The direct causes associated with the historical deforestation in PDM are the expansion of the agricultural frontier by new settlers to the province, the exploitation of forests in indigenous lands by intermediaries and with the consent of some members of the communities, and the application of traditional practices for collecting the fruit from palm trees by cutting the trees. Intermediaries have no incentives to apply sustainable practices because they have no stake in the land or its long-term productivity.

Another source of deforestation in PDM comes mostly from illegal logging by intermediaries who obtain logging permits falsely in the name of the indigenous communities. Given the needs of communities and the fact that they are not creditworthy and lack the technical, legal and financial capability and support to develop and implement forest management plans, the extraction of timber by outside intermediaries is unsupervised by the authorities. Weakness and absence of regional and local authorities contribute to this lack of control.

The projection of future deforestation rates is a difficult task that must follow the national guidance of the REDD-plus process in Peru. Since this guidance is not currently available, the baseline scenario is defined through simple analysis of the historical data under the most conservative approach. As a reference for the proposed project, the intensification of short-term deforestation, using the Kernel method, provided in map 10.5. Once the national guidance is available, the baseline scenario will be adjusted and communicated. For the purpose of this proposal, the following information is used to define the baseline scenario: three scenarios are estimated from very conservative, conservative and high. The first scenario takes the average of the last 10 years and assumes that it will be the same during the following 10 years. The conservative or medium scenario estimates the linear trend depicted by the historical data and projects it to the 2016–2025 period. The high scenario, based on an initial projection provided by MINAM, uses a non-linear approach to estimate future deforestation. The results are summarized as follows:

Accumulated deforestation in the terra firme forest:

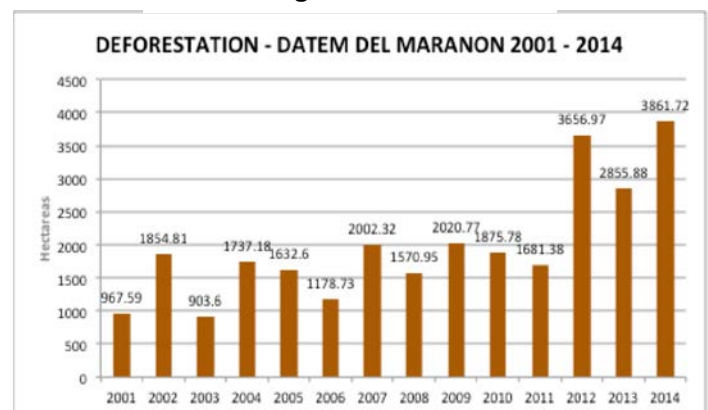
- Very conservative scenario: 22,340 ha;
- Medium scenario: 40,780 ha; and
- High scenario: 67,560 ha.

Accumulated deforestation in *aguajales* forest:

- Very conservative scenario: 1,020 ha;
- Medium scenario: 1,956 ha; and
- High scenario: 5,380 ha.

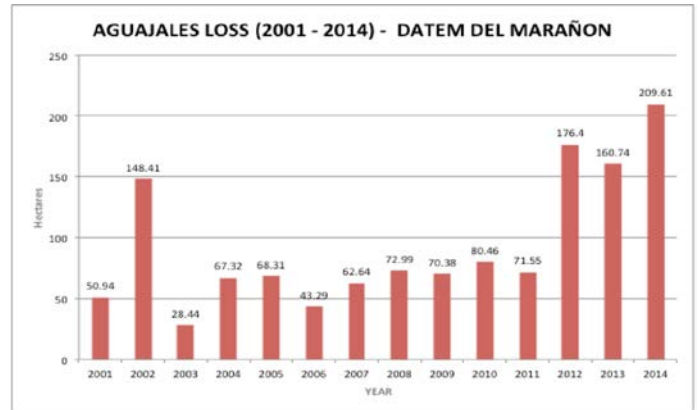
Carbon emissions, based on the selected scenarios and the data indicated in table C.1.1 (best available scientific information) yield the following results of the carbon stock at risk, in Mt C in 10 years:

Figure C.1.1.



- a. Very conservative scenario: 3.70 Mt CO₂ eq;
- b. Medium scenario: 6.80 Mt CO₂ eq; and
- c. High scenario: 13.10 Mt CO₂ eq.

Figure C.1.2.



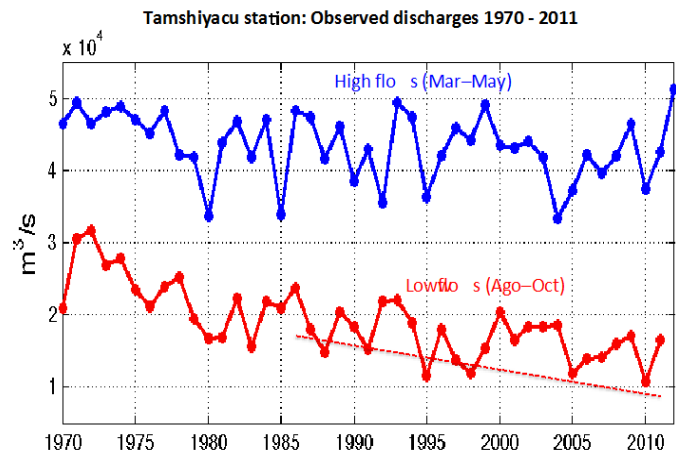
Palm oil plantations. Peru is a net importer of cooking oil. It traded some 40,000 tonnes in 2011, and shows a tendency to increase. In 2012, the Government of Peru (GOP) adopted the national priority of increasing the internal production of vegetable oil, focusing on oil from palm trees, due to the country's large area of suitable land, the very high yield of varieties already adapted to the Amazon, and the corresponding high profitability of the industry. The GOP has encouraged and supported the expansion of the industry since 1973, with the creation of ENDEPALMA. Government estimates indicate the need to increase palm oil plantations to over 125,000 ha by 2020. The Ministry of Agriculture has estimated that land under palm oil production amounted to 32,567 ha in 2012. Loreto is considered a most promising area for the promotion of palm oil plantations, with PDM being the most promising province. The Loreto region has the largest availability of highly suitable lands (over 1.03 million ha or 50 per cent of all lands with this classification in Peru). It is expected (and highly likely) that lands in PDM will be co-opted for palm oil production. Although, the national legislation related to palm oil plantations restricts such plantations in native communities' territories and in natural forests, there are areas in the PDM of unallocated land tenure which can be subject to the establishment of these plantations.

Droughts. In recent years, the Amazon River has experienced extreme drought conditions, which have had major social and environmental consequences. As indicated in figure C.1.3, during the last 40 years the Amazon River has shown a dramatic negative trend in minimum yearly discharges.

The very intense droughts in 2005 and 2010 raised the spectrum of Amazon die-back, a scenario in which the humid forest is replaced by savannah due to changes in temperature, rainfall and the onset of climate feedbacks. In the lower PMB, the 2005 and 2010 droughts have been studied as part of a larger interest in enhancing our knowledge of the rainforest's expected behaviour when it is subjected to intense drought. There is general scientific agreement that droughts in the Amazon are associated with a shift or reduction in the forest's capacity to sequester carbon from the atmosphere, and that it takes some time—several years—to return to its average level. Several conclusions indicate a strong potential for critical changes:

In 2005, large sections of the western Amazon Basin experienced the most severe drought of the past 40 years and also one of the most intense of the last 100 years. The 2010 drought was even more extreme when analysed over the entire river basin, although its return period was not estimated. According to the trend exhibited, such events should not be considered extreme in the future.

Figure C.1.3. Amazon discharges at Tamshiyacu, Peru



Significant reduction in Lowflows (Espinoza et al., J. of Hydrology, 2009)

If intense droughts increase in frequency, as suggested by global climate models (Cox *et al.* 2004; Betts *et al.* 2004), large areas of the Amazon's forest canopy would likely be exposed to the persistent effect of drought and the slow recovery of forest canopy structure and function. Early signs of potential large-scale degradation of the Amazon rainforest from climate change^{3 4} through increased rainfall variability in the past decade, may already be present in areas of the southern and western Amazon.

Floods, and especially the combination of intense droughts and high floods, as has recently occurred (2012) in the Amazon Basin, have the potential for disrupting ecosystems, and could result in permanent changes in biodiversity and ecosystem services. Floods have produced severe damages to dwellings and infrastructure, have destroyed crops and killed domestic animals, have caused economic hardships, and are associated with severe outbreaks of diseases and ill health. Indigenous communities in the project area have observed flood stages never before reached, and have expressed their concern about the increased frequency of floods. These communities' observations confirm conclusions reached by scientists through analyses using complex analytical tools.

Infrastructure projects. The construction of large transportation infrastructure is also a major concern for the carbon stock in PDM. Several large projects are under consideration by the national and regional governments. The Loreto region lacks major roadways connecting it to the rest of the country. Its regional government has presented a transportation plan to the Ministry of Transportation and Public Works. This plan analyses the need for different modes of transportation and according to it, the first priority is a road connecting Iquitos to Yurimaguas.⁵ The construction of this road is a long-held dream that is not viable in the near future. Loreto will eventually be connected to the rest of the country through the road system, and this is a likely option to start with. Whatever the GOP decides, the road will accelerate deforestation and increase land grabbing and land degradation. If not well managed, the road is likely to have a severe impact on the carbon stock in the project area.

Threats to the population

The processes described above are likely to impact the population living in the project area. Based on existing information, it is estimated that minimum temperatures are increasing, and are likely to continue increasing in the future. The Meteorological and Hydrological National Service of Peru (SENAMHI) suggests that they are likely to increase between 4.0 and 6.0 °C, while the estimated range of increments for average temperatures is between 3.6 and 5.2 °C. Heatwaves are also expected to become more frequent, with estimates of 2.28 additional hot nights per decade and 1.2 additional very hot days per decade.

Floods are likely to become more frequent, changing the character of the alluvial rivers, especially in their deposition cones in the Andean foothills. Climate models and scenarios of future climate conditions do not offer guidance about expected changes in the river channel. More frequent floods, as already experienced in the Amazon, are likely to have serious impacts on the well-being of the population, its health and transportation costs.

Underlying causes of deforestation

From the above discussion, from PROFONANPE experiences working in the area for the past eight years, from technical literature and from the REDD-plus initiatives in Peru, the main underlying causes of deforestation have been identified. Due to their particular relevance in Loreto and PDM, we highlight the following:

³ Zelazowski P, Malhi Y, Huntingford C, Sitch S, Fisher JB. 2011. Changes in the potential distribution of humid tropical forests on a warmer planet. *Philos Transact A Math Phys Eng Sci* 369(1934):137–160.

⁴ Saatchi S, Asefi-Najafabady M, Aragão LEOC, Anderson LO, Myneni RB, and Nemani R. 2013. "Persistent effects of a severe drought on Amazonian forest canopy. *Proceedings of the National Academy of Sciences*, available at <www.pnas.org/cgi/doi/10.1073/pnas.1204651110>.

⁵ See <<http://www.slideshare.net/richardincnt/plan-vial-departamental-participativo-de-loreto-20062015>>.

Weak government institutions: Government institutions are either absent or very weak in the project area. PDM was recently created (in 2005). It is consolidating its governance structure but is limited by the low population in its large area of jurisdiction as well as by the lack of a large pool of professionals from which to select key government officials. Budget-wise, the provincial government is also rather weak, with a long list of responsibilities and a tiny budget. According to the 2013 Report on Human Development in Peru by the United Nations Development Programme, PDM scored 0.4295 in the indicator of government presence (*Indice de Densidad del Estado*), with the second lowest score of all provinces in the country. Furthermore, the province ranked 194 out of 194 in the number of individuals without national identity documents, 174 in education services and 174 in the number of medical doctors available per 10,000 inhabitants. The project proposes to strengthen the provincial government's institutional capacity to better serve, guide and monitor users of natural resources. The emphasis on participatory planning processes helps to build trust and give legitimacy to government actions.

Poor coordination among key stakeholders: For the protection, conservation and sustainable use of natural resources, all stakeholders should have an understanding of the activities of the other actors involved, their plans, and the possibility of building coalitions or creating synergies to better achieve their goals. The presence of different ethnic groups and indigenous communities, as well as the long history of unbalanced agreements between communities and settlers, have created an environment conducive to mistrust and minimal interaction. The low presence of government is a contributing factor to poor coordination.

Land tenure/land security: 39 percent of the province lacks clear land tenure status, excluding wetlands; 43 per cent of the land that could have legal title has not been legalized. Land security favours the implementation of good natural resources management practices. In the project area, several ethnic groups (indigenous peoples) have not been able to formalize the titles to their communal lands. Many barriers exist to land titling in Peru, including the need for these peoples to register as citizens, the delimitation of their territory, and the resolution of boundary differences with neighbouring communities.

Lack of coordination, poor sectoral alignment, lack of consistency, and absence of a common vision, are all expressions used to describe the workings of government offices with narrow mandates, policies defined without adjustment to the local context, and absence of dialogue with key stakeholders. PDM has yet to produce a shared vision for its peoples and territory, or guidance on how best to manage its large natural resources. Planning (participatory, inclusive, informed) is an activity that has not been undertaken. Land-use planning provides a good basis for natural resources management if it is properly accompanied by well-developed natural resources management plans. Land-use plans, developed through a participatory process that includes all relevant stakeholders, are considered legal (government-enacted) guidelines for potential uses in the areas under the plan. As such, the local government may adopt management options based on the users' agreed organizations, thus increasing users' responsibility for the adequate and sustainable use of the resource base for their well-being.

A long history of mistrust in the relationship between ancestral communities, settlers/migrants and government officials.

C.2. Project / Programme Objective against Baseline

The project's challenge is to identify a proven, solid and culturally acceptable management strategy to protect the carbon stock from identified direct and underlying threats, and to prevent the development of new and unanticipated risks while improving the well-being and resilience of the indigenous communities in the area of interest. In other words, the problem is to select a management option for the sustainable use of natural resources, in the light of the threats of climate change, anthropogenic actions and governance difficulties associated with working with a sparse population of largely native communities in a remote location. An enabling strategy was selected based on the analysis of the main types of sustainable natural resources management options. It is emphasized that sustainable natural resources

management is both an effective mitigation scheme and a proven alternative to build resilience in ecosystems and communities.

Mitigation logical framework

The objective of this subsection is to describe the climate mitigation logical path that is the logical link from threats to the existing carbon asset and the underlying causes of deforestation to the selection of a strategy to deal with the threats and the corresponding main activities. As shown in table C.2.1, the existing carbon asset is being threatened by anthropogenic activities, which the project aims to influence. As indicated, the main threats are associated with the deforestation/degradation of indigenous lands through enabling intermediaries, forest exploitation and clearing by subsistence migrants, and the use of unsustainable practices to harvest non-timber forest products. These threats are the consequence of weak government presence due to the remoteness of the area of interest, tied to the lack of technical guidance on managing the natural resources base. The existence of large areas without defined land tenure is a major source of concern because 42 per cent of the useable land has not been allocated, and technical assistance

Table C.2.1. Mitigation component logical framework



and access to credit for the sustainable exploitation of its natural resources are lacking. The overall strategy seeks to: (a) entrust users with the tasks of implementing approved management plans, conducting surveillance and monitoring programmes, and preparing yearly reports; (b) build institutional capacity in government and communities for participatory planning, and foster accountability regarding agreed operational plans; and (c) promote new practices and innovative opportunities through sustainable bio-businesses sponsored through a business incubator and supported by teams of scientists and engineers; and (d) establish new ACA managed by indigenous communities. This strategy will be

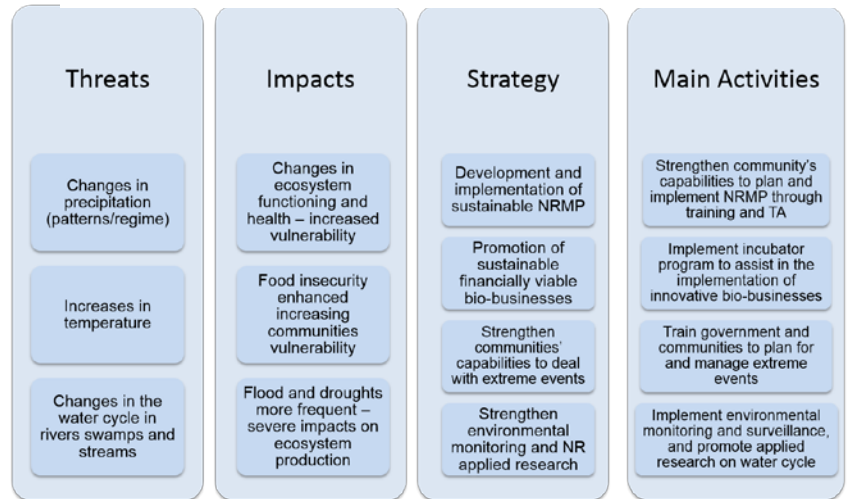
implemented through training activities, technical assistance and logistical support directed towards key stakeholders. Emphasis has been placed on building capacity in government and communities for the development of participatory land-use plans (POTs), through which the government and the community define allowed activities, as well as operational management plans, through which sustainable natural resources use is promoted. Training and assistance will also support the devolution of management authority for areas covered by operational management plans. Furthermore, the project will foster sustainable bio-businesses as a means of increasing community well-being, strengthening sustainable natural resources management practices, building stronger community associations, and facilitating the implementation of activities for the benefit of women and children. The project argues that devolving authority to the users of the natural resources for managing, monitoring and conducting surveillance to avoid misappropriation of the resources is tantamount to giving the communities, through their associations, responsibilities only associated with land tenure. As proposed, the communities will need to prove, year after year, that they are worthy of the responsibility entrusted to them.

The emissions reduced by the project will be counted as part of Peru's contribution to mitigate climate change. Up to now, the project is not envisaging to claim for a results-based payment scheme and the GOP has not yet defined how these revenues would be distributed. If the possibility to claim results-based payment is opened, the project will adopt the country's approved mechanism.

Adaptation component logical framework

The project rightly argues that the general strategy adopted and all the activities described could and should be sought as elements of an adaptation plan of action. This subsection shows the logical rationale for such a statement. The adaptation logical framework, depicted in table C.2.2, follows the structure of the previous subsection, but is adjusted for the consideration of activities aimed at increasing resilience to the expected impacts of climate change. The logical framework relates threats to impacts that are the basis for selecting a response strategy with its main activities

Table C.2.2. Adaptation component logical framework



More precisely, people and ecosystems in the project area face serious climate change threats associated with changes in the rainfall patterns and hydrological regime, from increased temperatures, including extreme events (heatwaves or number of very hot days), and from changes in the hydrological behaviour of rivers, swamps and streams. Extreme events should be highlighted. The probability of floods, droughts and heatwaves is expected to increase; technical and scientific literature indicates that such changes are already observed in Western Amazonia. Such changes in climate are expected to have profound impacts on ecosystems and on the population whose livelihood is linked to ecosystem services. Among the major expected impacts, the following are underscored: Food security will be compromised as the previous rate of ecosystem service production is disrupted. This is supported by observations of animal migration, changes in flowering times, disruption of biological cycles associated with extreme events, etc. Extreme events could also have a profound effect on the productivity of ecosystems, as already indicated in the section on threats. However, of greater concern are the impacts on the population living in the project area whose livelihood depends on primary natural resources. Unfortunately, there is a considerable lack of scientific observations and research upon which to base a clear adaptation response.

In response to these threats and impacts, the adopted strategy calls for the development and implementation of sustainable natural resources management. This approach will reduce other stressors on ecosystems, increase ecosystems' resilience to deal with climate change, and could provide the population with new practices to use and profit from the richness of their territory without degrading or deteriorating it. Communities will need to receive training, technical assistance, and logistical and financial support to strengthen their associations and capabilities to plan for and implement plans of actions to sustainably use their forests, deal with extreme events, and collaborate on surveillance and environmental monitoring tasks. Finally, to complement environmental data collection activities, an applied research component is required in order to provide better foundations for future adaptation activities.

Proposed strategy

In summary, the proposed activities seek the sustainable use of natural resources through commercially viable businesses and the devolution of responsibility for the management of the natural resources base to the indigenous communities. Associations, of subsistence farmers and/or of indigenous communities, will be encouraged through training, technical assistance and access to bio-business incubator opportunities. Both sets of activities build social capital, foster empowerment and community ownership, promote exchanges with the rest of society, enhance learning opportunities, and consolidate indigenous peoples' basic rights.

More precisely, the project will promote sustainable resource management through the use of formal mechanisms developed by the GOP to guide the adequate use of renewable natural resources. The project will promote the formulation and formalization of planning mechanisms required to guide land use and the sustainable use of natural resources. The natural products extracted under the guidance of the operational plans will be transformed into commercially viable products.

Fostering indigenous communities' responsibilities for the sustainable use of natural resources responds to their appeal to manage their ancestral territory, and includes, among other activities, the promotion of associations of indigenous peoples to embrace inclusive, participatory and transparent management models. The project will provide technical assistance and training aimed at improving management skills and conflict resolution.

While the proposed project is expected to generate emission reductions, these will be accounted at the national level and discounted from the overall carbon accounting from the forest and land-use sector. The project will not claim for results-based payments from the emission reductions generated. Nonetheless, the proposed project will participate continuously in the development of the benefit sharing mechanism of results-based payments being developed at the national level so clear and transparent information is shared with the communities.

C.3. Project / Programme Description

Component 1: Strengthening institutional capacity in government

The objective of this component is to strengthen the government's capacity to plan for and implement guidelines in response to the needs of communities living in PDM. Although these activities are government mandates, the project argues and has shown that governments are weak in this area and require strengthening; that due to budgetary constraints, detailed planning commitments might have to wait for several years while other immediate social and political needs are addressed; and that the project proposes a paradigm shift towards a more inclusive and participatory planning process, actively involving indigenous communities and natural resource users. The specific services targeted are: (a) the POT,⁶ formulated under the leadership of the provincial government with the active participation of indigenous groups. The POT will integrate and harmonize the work led by indigenous groups in the formulation of an EMP for their respective territories; (b) the formulation of the Provincial ZEE; (c) the establishment of new ACAs,⁷ (d) the entrusting of the implementation of agreed operational management plans in selected areas to community organizations under open, participatory and transparent management practices, including accountability mechanisms, and the granting of authority to communities for peaceful conflict resolution; (e) the formulation of climate-change strategies and action plans by the region and the province; and (f) the promotion of the registration of indigenous peoples. The project will provide technical assistance, training and logistical support, and will offer coordination among interested key stakeholders.

Component 2: Strengthening capacity of community-based institutions

The project will work with indigenous peoples to facilitate their participation in the preparation and formulation of the planning instruments mentioned in component 1. The main emphasis will be on creating the enabling conditions for indigenous peoples to participate in a meaningful manner by voicing their points of view and building alliances for their

⁶ The GOP defines the POT as a planning and land-management tool that promotes and regulates the processes of organization and sustainable management of the territory, articulated with environmental, economic development, social and cultural plans and with other development policies in force in the country. The POT links the land-use planning process with other plans and instruments related to land management and development.

⁷ The environmental conservation areas (ACAs) are created by the provincial government. ACAs are designed on three basic pillars: management by local populations, participation and financially viable production as the basis of sustainability. ACAs include predominantly untitled communities, with mixed populations, becoming areas of multiculturalism.

benefit. These conditions will also guide their new responsibility for the sustainable use of renewable natural products. Through this component, native communities will formulate the EMP for their respective territories as an input for the provincial POT. Under component 2, the project will also strengthen the management capacity of native communities and associations to implement the operational plans for natural resources, as approved by the corresponding authority (at the regional level). The project will also facilitate the registration of indigenous peoples at the Public Registry Office.

Component 3: Resilience building through sustainable bio-businesses

Under this component, the project will promote greater economic links between traditionally separated communities and the rest of the economy, based on nature-based products with proven markets and established commercialization links. To this end, the project will promote innovation in the identification and development of sustainable bio-businesses. Furthermore, through technical assistance and with the participation of scientists, the bio-businesses will be studied in order to identify and develop technological innovations in order to improve and assure the quality of their final products. This component will also prepare and execute a commercialization strategy to open new links and markets to the region's products, and will introduce certification programmes.

Component 4: Science, technology, knowledge management, and monitoring and evaluation systems

The Province of Datem del Marañón is highly vulnerable to climate change and anthropogenic threats. The complicated hydrological, geomorphological and biological processes that have created the complex set of swamps, swamp forests, and *aguajales* remain little known. In order to provide the project with better knowledge for planning, managing and protecting the ecosystem, a scientific component has been included. Through this component, the project will obtain better understanding of the water cycle in the swamp complex, with emphasis on drought conditions. With project support, communities will prepare and implement contingency plans to deal with extreme events (droughts and floods). This component will also promote technological innovation in support of bio-businesses, the implementation of the project's monitoring and evaluation (M&E) system, and the formulation and implementation of a communications strategy.

C.4. Background Information on Project / Programme Sponsor

PROFONANPE, the project sponsor, has catalysed non-reimbursable financing for biodiversity conservation and sustainable development for over 22 years in Peru, and has implemented and co-implemented 36 programmes and projects. The work of PROFONANPE, which began with an emphasis on protected areas, has evolved into a comprehensive approach for the sustainable management of natural resources in fragile or threatened areas. In particular, over the past decade PROFONANPE has directed its efforts towards promoting programmes and projects aimed at strengthening protected areas' contribution to climate change mitigation and adaptation, enhancing local communities by promoting sustainable economic activities, and creating a range of subnational-level and local-level mechanisms for the conservation of aquatic and land-based ecosystems.

The new 2014–2024 Strategic Plan provides guidance to PROFONANPE for supporting national efforts aimed at countering climate change risks.

With regard to the proposed intervention in Loreto, PROFONANPE has worked with local native communities in PDM since 2004. Over this period, it has earned their trust while contributing to their well-being through capacity-building, ongoing technical assistance to improve land management, and their inclusion in the social benefits system. These were achieved by working in close alliance with multiple stakeholders at the local, regional and national levels.

Financial status

As an environmental fund, the expertise of PROFONANPE is mainly focused on fundraising, administration, resource channelling and project management. By late 2014, it had increased its seed capital 29-fold, reaching nearly USD 152 million, and has channelled resources of about USD 110 million.

Furthermore, during its work in the proposed project area from 2004 to 2013, PROFONANPE managed to establish an endowment fund of USD 5.5 million while implementing activities for over USD 9 million from a debt-for-nature swap between the Governments of Peru and Germany. Returns from the endowment fund are used to implement activities with native communities in Datem del Marañón, highlighting the long-term commitment to the communities and to the overarching goal of fostering the sustainable use of natural resources of GOP and PROFONANPE, while improving the well-being of indigenous communities (For more detailed information see annex XI). Besides serving as a co-financier for the implementation of the project, after its completion, these returns will serve to strengthen and facilitate the sustainability of the activities financed during the project's life span.

The core of future funding will be aimed at strengthening those bio-businesses that still require broader terms for consolidation. In particular and as appropriate, it will finance technical assistance in areas such as technology transfer, identifying new markets, marketing, maintenance of equipment, development of training workshops, internships, etc. To fulfill this purpose an allocation of USD 350,000–400,000 annually is estimated. Likewise and in order to ensure the follow up of post-project activities, the project endowment will provide financial resources to perform the tasks of monitoring and reporting for at least five years after project completion. In this case, an annual budget of around USD 40,000 is estimated.

C.5. Market Overview (if applicable)

Fish and wild meat

Fish is traded salted and dehydrated and wild meat as smoked. Both products are considered of high quality by local standards and are marketed in proper packaging and in polypropylene sacs. The final market is the city of Yurimaguas, region of Loreto, which has traditionally been supplied from the Pastaza Basin and Rimachi Lake. The city has a large market that absorbs the entire supply from the region mainly satisfying the demand from the increasing number of agricultural producers in the region. Tarapoto city is the next market to reach that can absorb growing production especially given the increasing economic growth rates seen recently. Bio-businesses sell the fish and wild meat products at retail prices during the season between January and July. Reaching the retail market through their associations gives producers a higher margin having eliminated two steps of intermediation to the final consumer.

Aguaje pulp and oil

Current production is being sold through a local firm called FRUTAMA, a company dedicated to the marketing of frozen pulp and oil of different fruits of the Amazon palm tree such as the *aguaje*, *huasaí* and *ungurahui*. There is growing potential to supply both products to the market for ice cream and soft drinks in various cities of the Amazon and in the rest of the country and potentially to foreign markets as an exotic product. Currently bio-businesses sell their products to FRUTAMA, which markets them to other merchants, supermarkets and wholesalers that have the facilities to keep them for as long as the products require, in the largest cities of the Peruvian jungle such as the cities of Iquitos, Yurimaguas and Tarapoto. *Aguaje* pulp has also entered the market in Lima, since the pulp is high in protein compared to milk or meat and is rich in proteins, lipids and vitamins.

Dragon's blood

This latex blood is sold to the markets of San Lorenzo and Iquitos. The product is also sold in other cities' markets, mainly in Lima, in liquid form and in capsules through naturalist houses under the brands Censelva and vine Natura. The resin extracted from the tree of the species *Croton* is applied as part of healing processes, and anti-inflammatory and antiviral treatments. The latex blood is sold in markets, mobile stalls and pharmacies. The liquid is sold in containers of different sizes and its use is quite widespread being used in native forests and urban Amazonian populations. It should be noted that to the extent that the product is processed under minimum quality-controlled conditions and is certified, the export potential is significant. Currently bio-businesses sell to companies like L & CH from Yurimaguas, wholesalers that export to Mexico and the United States of America. Other companies like Shaman

Pharmaceuticals Inc have been interested in identifying suppliers with great potential in the market to treat diarrhoea in AIDS patients. The company only buys dragon's blood from communities and organizations that are reforesting this species actively; accrediting and promoting reforestation to ensure that this valuable resource is not lost.

C.6. Regulation, Taxation and Insurance (if applicable)

With regard to the establishment of the ACAs, these are created and regulated by the provincial municipality of Datem del Marañón by Municipal Ordinance No. 002-2013-MPDM framed in Art. 73° Substances under municipal jurisdiction, section 3.2, which proposes "the creation of environmental conservation areas"; however in terms of competition to 'create' or 'set ACAs, it still remains unregulated. The legal vacuum persists; however ACAs constitute a legal alternative by which to conserve and sustainably use natural resources. ACAs are designed based on a solid theoretical and conceptual framework the pillars of which are three basic principles: the suitability of land management by local populations, participation as a necessary condition for conservation and productivity as basis of sustainability.

The access of ACAs to natural resources is regulated by the Forestry and Wildlife Law (Law No. 29763), where sustainable resource management carried out by indigenous organizations is allowed through local forest and forestry permission when indigenous communities are entitled to do so. The responsibility of local forest manager would rest with the provincial or district municipality. The supervisory and control role is under the Regional Program Management of Forest Resources and Wildlife - Regional Government Loreto.

For the specific project implementation, neither permits nor licenses are required. The investments in the indigenous community's land will be subject to approval and consensus from the communities themselves.

Between 43 and 50 per cent of the project land area is untitled. The project will not involve any land titling, as it is a sensitive issue among the communities in the area.

Equipment purchased and other procured items will be subject to taxation at the rate of 18 per cent.

C.7. Institutional / Implementation Arrangements

PROFONANPE will be the recipient of the GCF grant and will be responsible for the project's technical and fiduciary execution, including monitoring and supervision. The internal procedures of PROFONANPE require the creation of a Project Administration Council (PAC) or Steering Committee to oversee the project's implementation. In the case of this project, PAC will be formed by a representative of MINAM, a representative of the PROFONANPE Board of Directors, a representative of the provincial municipality, one representative from the three National Indigenous Organization based in the area of influence of the Project who will change every year, and the Executive Director of PROFONANPE. The Development and Supervision Director of PROFONANPE will act as the technical secretary. PAC will meet at least twice a year to review project progress and approve annual workplans, progress reports, and annual procurement plans. If necessary, PAC will hold additional meetings: for example, to review modifications to the procurement plans. Committee members will not receive honoraria or other kinds of financial remuneration.

The project will establish a Technical Committee to provide overall technical assistance for project implementation and to serve as a consultative body. The Technical Committee will include well-known national and international experts in fields that will complement the knowledge and experience of PROFONANPE. It will meet twice a year to ensure that scientific knowledge and field experience are applied in work plans. Committee members will not receive honoraria or other kinds of financial remuneration.

A Local Advisory Committee will be formed by representatives of the Loreto Regional Government; San Lorenzo–Marañón de Loreto Subregion; Datem del Marañón Provincial Municipality; District Municipalities of Morona, Pastaza, Manseriche, Cahuapanas and Andoas; Indigenous Federations, Regional Indigenous Organizations and the Project Manager. The main functions of this committee will be to support the Project Management Unit (PMU) in planning

project activities, facilitate the interagency coordination process, and disseminate the project's progress and achievements. Local Advisory Committee representatives will meet twice a year in San Lorenzo.

The project's technical aspects will be implemented by PMU under the supervision of PROFONANPE. PMU will: (a) implement the project according to the grant agreement, project document, annual operational plan and procurement plan; (b) prepare the above-mentioned plans; (c) carry out the monitoring of objectives and targets outlined by the project; (d) provide overall assistance to local stakeholders for project implementation; (e) prepare and submit to the PAC the operational plans and management reports; (f) prepare the technical documents, terms of reference, and other relevant documentation required to carry out the procurement and contracting of goods and services; and (g) organize meetings with the project's Technical Committee to obtain technical assistance and stakeholders as required.

PROFONANPE will appoint a Project Manager to lead PMU. This manager will be in charge of overall project direction and have the primary responsibility of meeting the project's general objectives and results. The Project Manager will be in charge of developing the terms of reference for technical studies, participating in procurement processes, preparing annual operational plans and progress reports that may be required by PAC, conducting the necessary coordination and communications with counterparts and other relevant agencies as required, and in general ensuring the proper implementation and monitoring of project interventions. The Project Manager, based in the field, will carry out and supervise field activities.

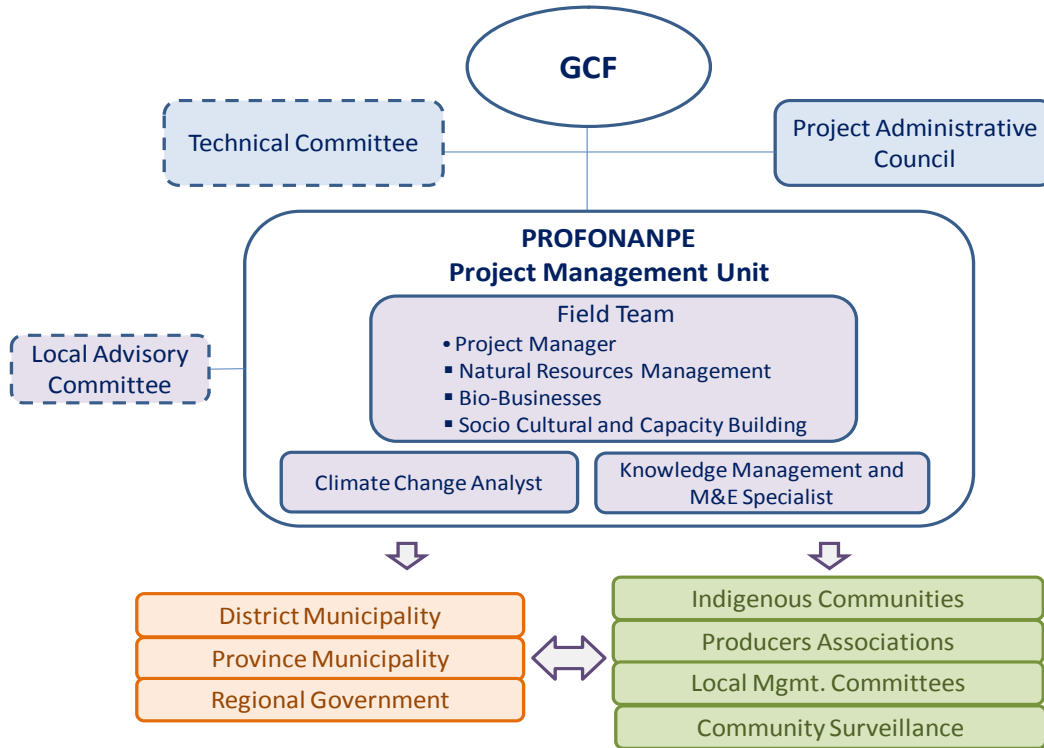
The Project Manager will be supported by three professional staff covering three areas of work: natural resources management, bio-businesses, and sociocultural and capacity-building aspects. These professionals will support the Project Manager in implementing project activities in all communities of the region, provide feedback and review of technical studies, and complement these with technical documents needed in discussions and reviews of plans developed at the provincial or territorial unit level across the region.

The field team will be supported by two senior professionals covering the areas of (a) climate change analysis and (b) knowledge management with M&E. The CC analyst will provide assistance to PMU regarding CO₂ emissions reduction monitoring and the implementation of adaptation measures to CC within local communities. He/she will be involved in activities related to the development/updating of CC strategies, where his/her knowledge and skills on this subject will be transferred. The field team will have two staff members to provide support for administrative tasks as well as for transport. PMU will have a Local Advisory Committee with recognized experts in the culture of indigenous communities as well as with Amazonian livelihoods. The committee will meet by request of the field office to comment and provide advice on specific issues that may arise during project implementation. As it has been planned, the project implementation would not require additional contract arrangements with other implementing partners.

Beneficiaries include two main groups: (a) government institutions and officials, including district and provincial municipalities as well as regional and ministry levels; and (b) local representatives, including indigenous communities, producers' associations, indigenous federations, local management committees, and community surveillance committees. The project will act as a facilitator and supporter of activities that the local beneficiaries will implement at government and indigenous community levels.

Additionally, in order to ensure the project is in line with the country's climate change-related priorities and development plans, the Ministry of Environment of Peru, principally, through its Climate Change, Water and Desertification Office will permanently participate during the project's formulation, implementation and monitoring; in coordination with other relevant offices within the Ministry.

Figure C.7.1. Project's organizational structure



C.8. Timetable of Project/Programme Implementation

The feasibility study in the annex presents the project implementation programme in detail. The following is a summarized version that includes all project activities spread over the five-year life cycle of the project.

ID	Task Name	Year 1	Year 2	Year 3	Year 4	Year 5
1	COMPONENT 1: Strengthening Institutional Capacity in Government					
2	District Level					
3	Indigenous peoples registration					
6	Province					
7	Land Use Plan (LUP) development					
10	New ACA establishment					
12	Conflict-resolution authority granting to ACAs					
15	Provincial CC strategy development					
18	Climate monitoring system implementation					
21	Provincial ZEE development					
23	State of Loreto					
24	State's CC strategy updating					
27	National					
28	Development of white papers on legislation for resources mgmt.					
30	Produce GIS-based information for environmental monitoring system					
32	COMPONENT 2: Strengthening Capacity of Community-Based Institutions					
33	Indigenous Communities					
34	CC observatory creation					
37	Implementation of natural resources operational plans					
41	Environment Management Areas (ACAs)					
42	Development and implementation of ACAs' management tools					
46	Periodic updates of ACAs' monitoring of management plans					
49	Indigenous Association					
50	Associations creation					
53	Indigenous Federations					
54	Environmental Management Plan (EMP)					
58	COMPONENT 3: Resilience Building through Sustainable Bio-Businesses					
59	Selection of Bio-Businesses					
60	Creation of financially sustainable bio-businesses					
66	Innovation/Technology Adoption					
67	Bio-businesses clean energy solutions					
71	Bio-business using innovations in production methods and tools					
75	Commercialization					
76	Development of commercialization strategies					
79	Introduction of certification programs					
83	Establishing international commercial links					
86	COMPONENT 4: Science, Technology, Knowledge Mgmt. and M&E Systems					
87	Innovation/Technology Development					
88	Design of technology enhancement for productive bio-businesses					
90	Functioning of Aguajales					
91	Hydrological modeling					
93	Develop flood and drought contingency plans					
95	Documenting Experiences and Lessons Learned					
96	Systematization of anthropological, economic and management observations					
98	Project description, lessons learned and monitoring and evaluation					
100	Public Information					
101	Communication strategy development					
104	Dissemination brochures production and distribution					
106	Website development					
109	Project Reports Distributed					
111	Evaluations					
112	Mid-term					
113	Final					

D.1. Value Added for GCF Involvement

PROFONANPE argues that incremental GCF cost support is fundamental for reducing deforestation and enhancing the climate resilience of the population in the area of intervention, benefiting 120 communities with 20,413 inhabitants. GCF resources will address core, underlying causes of deforestation through a strategy that also strengthens communities' resilience to more frequent floods and droughts. Without GCF funds, no resources will be available for the implementation of the proposed activities. This would have potentially negative consequences for the carbon stored in Datem del Marañón's peatlands, as described by the baseline scenario. The following considerations support this statement:

- The forested area, including *aguajales*, swamps and associated ecosystems, is threatened by climate change and other forces external to the occupants of the territory.
- At this time 43 per cent of the land in PDM remains untitled. Consequently, many communities perceive that their land rights are insecure and might be contested by unknown third parties. Moreover, the titling process is cumbersome, protracted and expensive. The communities consider it to be beyond their control.
- Without strong property rights, the communities find it difficult to assert dominion over their territories and face climate-change impacts and anthropogenic threats, as identified in section C.1. Communities fear deforestation, forest degradation, and land-grabbing by external actors, as witnessed in other areas of Peru. We argue that entrusting the communities with the responsibility of managing, monitoring and providing surveillance in their respective territories provides the sense of ownership required to foster long-term considerations of natural resources management.
- The GOP faces resource constraints and gives priority to areas other than those that are very remote and difficult to reach, with very low populations. PDM ranks 193 on the list of priority out of 194 provinces in the country. The planning mandates of the GOP in the project area will have a protracted implementation, rely mostly on consultants' input, and provide a technically sound basis for enacting POTs and natural resources management guidelines. The suggested approach will support a more community-based approach, and conclude with a common, shared agreement on how land and resources should be managed in the province. PROFONANPE advocates the latter approach. Furthermore, the project will engage local and regional governments to increase their public budget through proposals under the National System of Public Investment (SNIP) for providing long term sustainability of the implementation of the POTs and will continue strengthening capacities in the public sector.

D.2. Exit Strategy

The project results are sustainable beyond the project life cycle, and the approach is likely to expand so as to cover other provinces and regions in Peru's Amazon Basin, provided that funding from international donors can be secured, with increased funding from the central government. The following arguments support this statement:

- The project will provide the province and its population with a formal (i.e. legally enacted), enforceable land-use plan, developed with and owned by the participants.⁸ According to recent regulations, provinces with

⁸ Under the Policy Guidelines for Land Use approved by Ministerial Resolution No. 026-2010-MINAM, land-use planning is a political and technical administrative process for concerted decision-making with the participation of social, economic, political and technical stakeholders, for the orderly occupation and sustainable use of the territory; and for the regulation and promotion of the location and sustainable development of human settlements, of economic and social activities as well as of spatial physical development, based on the identification of potentials and limitations, considering environmental, economic, cultural, institutional and geopolitical criteria.

formally adopted POTs are prioritized to receive public investment funds to anchor the agreed plans. The project will provide technical assistance to Datem del Marañón Provincial Municipality to strengthen its project preparation capabilities so it can expedite its requests for investments from the National System of Public Investment and facilitate the flow of budgetary resources. This will attract the presence of government entities to service PDM inhabitants. This strategy is being successfully implemented by PROFONANPE mainly as a way to ensure: (a) the implementation of approved plans and (b) the sustainability of actions under implementation by public institutions.

- Large areas will be under government-approved and established operational management plans under the tutelage of community organizations responsible for management, surveillance and monitoring. Newcomers and other potential users will need to negotiate with the communities to gain access to land or any other resource. The main incentives for managing the territories in a sustainable manner—the entrusted authority to manage the area, and the income-generating bio-businesses—will remain after the end of the project. It is argued that the indigenous communities will comply with the approved management plans so as not to concede this prerogative.
- Commercially viable, sustainable bio-businesses will protect subsistence farmers and indigenous peoples' sources of wealth. As described in the feasibility report, bio-businesses' profitability is high. Based on previous experiences in the area, there is demand by the communities to participate in this type of activity, which would provide the communities with money to participate in economic transactions otherwise out of their reach or subject to unfair trade. In all cases, demand for the selected products is many times greater than the ability of the communities to serve the local markets in Iquitos. Experience has indicated that more than two years of sustained support is needed to achieve commercial feasibility, with three years as the most commonly agreed upon figure to reach this target. PROFONANPE, as indicated below, will remain in the area to provide this long-term backing.
- The GOP will have a proof-of-concept project for the sustainable management of large areas through the devolution of responsibility to local associations of resource users. If the proposed approach is proven correct, the GOP would like to replicate it in other areas and adjust its details to other settings.

PROFONANPE has decided to make a long-term commitment to PDM. This is a formal and financed commitment: PROFONANPE has allocated a USD 5 million endowment fund, in perpetuity and exclusively to this area. The revenues from this endowment (estimated at USD 350,000 per year) will be assigned to maintain technical assistance by the PMU (project manager and one field coordinator) and training in support of some of the bio-businesses that, by the end of the project, will not yet have achieved financial sustainability and to support the creation of new bio-businesses to integrate value chains. This endowment fund will also provide resources for a five-year period ex-post monitoring and reporting of the project implementation for an amount of USD 40,000/year approximately.

E.1. Impact Potential

Potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas

E.1.1. Mitigation / adaptation impact potential

The Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru, project contributes both to mitigation and adaptation goals. More precisely, the project's approach is to build resilience to climate change in communities that depend on natural resources in Datem del Marañón as the best strategy to protect and prevent the deterioration of a substantial carbon stock found in the wetlands and natural forests. It is possible to argue that all of the GCF resources provided will be used for adaptation, and at the same time that the allocation of resources to mitigation will also be 100 per cent. This carbon stock has been estimated at 3,780 Mt CO₂ eq, and the estimates of avoided loss amount to 2.63 Mt CO₂ eq in the next 10 years. The direct beneficiary population (annex VII) has been estimated at 20,413 indigenous peoples living in 120 communities. The indirect beneficiary population is more than twice as large as that directly covered by the project.

E.1.2. Key impact potential indicator

Provide specific numerical values for the indicators below.

GCF core indicators	Expected tonnes of carbon dioxide equivalent (t CO ₂ eq) to be reduced or avoided (Mitigation only)	Annual	0.26 million
		Lifetime	2.63 million (in 10 years)
	Expected total number of direct and indirect beneficiaries (reduced vulnerability or increased resilience); number of beneficiaries relative to total population (adaptation only)	Total	20,413
		Percentage (%)	35

Other relevant indicators	<ul style="list-style-type: none"> Expected increase in hectares of land or forests under improved and effective management that contributes to CO₂ emission reductions. Expected increase in the number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options (including fisheries, agriculture, etc.). Increased coverage of ecosystems protected and strengthened in response to climate variability and change. Volume of finance leveraged.
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Expected tonnes of carbon dioxide equivalent (t CO₂ eq) to be reduced or avoided

The project's activities are within the frame of reference of the national REDD-plus programme, and the baseline scenario will be re-estimated once the national programme completes its national estimates. With the support of MINAM, the project will also collect and analyse high-resolution satellite data to assess deforestation in the project area. These parallel activities will provide the required input to calculate carbon losses due to deforestation.

The estimates of avoided deforestation are based on the assumption that the project will achieve a 50 per cent reduction in the deforestation rate in areas of direct intervention. This is a very conservative estimate because supporting information indicates that indigenous titled lands exhibit lower deforestation rates in the Amazon Basin. The following table summarizes the calculations, based on the carbon content presented in table C.1.1.

Table E.1. Estimate of avoided deforestation: very conservative scenario

Reference Lost area	Reference Lost "C"	Reference Lost CO2e	Scenario 1 efficacy	Scenario 1 Lost area	Scenario 1 "C"	Scenario 1 CO2e
1,020.0	859,860	3,155,686	0.138	879.4	741,331	2,720,685
22,340.0	2,826,010	10,371,457	0.211	17,620.3	2,228,966	8,180,304
Total tons CO2e		13,527,143				10,900,989

Avoided emissions	2,626,154	Tons CO2e
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Expected total number of direct and indirect beneficiaries (reduced vulnerability or increased resilience)

For the selection of beneficiary communities, four main criteria have been used: (a) those communities that are located in areas vulnerable to deforestation; (b) those that are located in the most important wetlands or their surrounding areas; (c) those that took part in the first stage of the PROFONANPE project and that showed willingness to work and improve; and (d) those that were not able to take part in the project for different reasons, but that have persistently required their incorporation in the project's work. The number of communities that will be benefitted is 120 with a total population of 20,413 people (4,150 families).⁹ Due to the communal social organization, any profit used for communal purposes (i.e. bio-business) will benefit the whole community directly. Data on beneficiaries disaggregated by gender is not available due to the limited number of people registered under the official national identity registry. The only information available, according to the Datem del Marañón Health Network data, estimates that 50 per cent of the total population are women. More precise information will be collected upon the start of the project to be considered as baseline, and throughout its implementation. In addition, the project will support the registration of the people involved in the project. It is expected to support the registration of at least 3,000 indigenous people in the project area.

Expected increase in hectares of land or forests under improved and effective management that contributes to CO₂ emission reductions

Currently only 34,356 ha of forest (including *aguajales*) and 10,000 ha of aquatic ecosystems have management plans under implementation. The project will foster sustainable natural resources management plans in 10 new areas (the surface covered with these management plans will be determined during the project implementation stage).

Expected increase in the number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options (including fisheries, agriculture, etc.)

An open and transparent process will be used to select the participating communities, and the number of individuals participating in the bio-businesses will be a community and specific decision. No estimate as to the number is available at this time. The project will be responsible for collecting data on the individuals and families inscribed through indigenous associations in bio-businesses. They will be eligible for technical assistance and training. Family data collection is expected to be difficult because indigenous communities guard against outsiders collecting 'private' information.

⁹ 2013. Datem Marañón Health Network.

The project will conduct comparisons with other projects that are carrying out similar activities in Peru, in the Amazon Basin, and in areas with similar landscapes.

Increase in coverage of ecosystems protected and strengthened in response to climate variability and change

PROFONANPE will work in the territory of 120 out of 284 communities in PDM. It is estimated that the project will work in an overall area of 338,000 ha as it will promote the creation of one ACA. The area's status will be defined by an administrative act from the relevant government office. The project will directly document and collect the corresponding evidence.

E.2. Paradigm Shift Potential

Degree to which the proposed activity can catalyze impact beyond a one-off project/programme investment

E.2.1. Potential for scaling up and replication (Provide a numerical multiple and supporting rationale)

Until June 2014, the Information System of Native Communities of the Amazonia (SICNA) database has registered 2,006 native communities, of which 1,343 have demarcated an area of 11,689,647 ha. In addition, there are five territorial reserves for indigenous peoples in isolation or initial contact totalling 2,812,686 ha. In that sense, the combined area of native communities and indigenous reserves for a total of 14,502,333 ha demarcated for indigenous Amazonian people, equivalent to 18.5 per cent of the Peruvian Amazon. In most of these areas, the context in relation to threats to the livelihoods of indigenous communities and the natural ecosystem is similar. Therefore, the potential to scale up is around 45 times the area of the project.

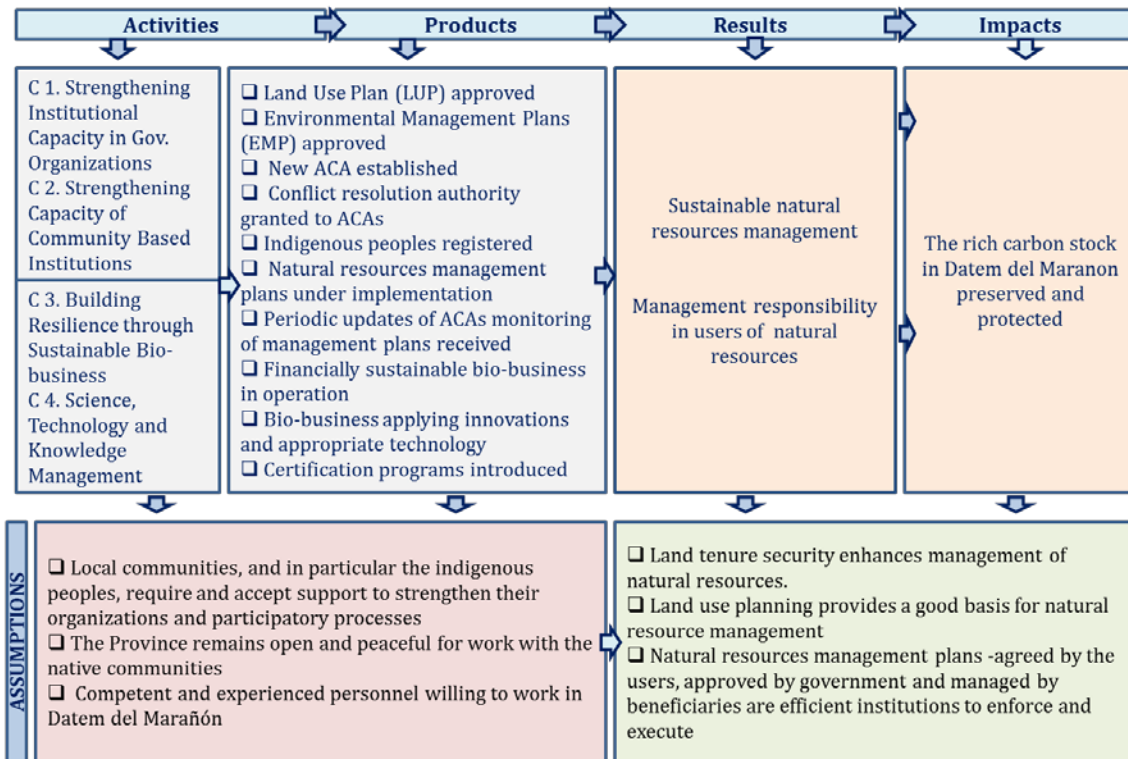
The Building Resilience in Wetlands of Datem del Marañón project presents an innovative approach to the objective of reducing GHG emissions and improving the livelihoods of one of the most vulnerable populations in the country. For the GOP, this is a proof-of-concept project. If the results are successful, as expected, the approach will be replicated in other provinces in the Peruvian Amazon inhabited by indigenous communities, and will provide guidance for its utilization in other Amazon Basin countries, as well as on other continents with native communities living in tropical wetland forests threatened by climate change.

PROFONANPE has assigned great relevance to planning instruments designed at the national level. In this sense, the project aligns with higher institutional goals set by the GOP. But our approach to the preparation of such planning instruments is bottom-up. It is based on building consensus and sharing a common vision for the future of the territory. It implies considerable effort in terms of coordination and building trust among the many participants. The regional and provincial governments have agreed to this approach, and the indigenous communities have expressed their interest in being heard, in expressing their point of view, and in defending their territory and ways of life. PROFONANPE has built considerable social capital among all stakeholders, and will use these resources to foster a new approach to planning. The GCF will enable these activities and greatly improve the usefulness of planning instruments. The GOP has embraced the approach, again as a proof of concept, and has expressed its willingness to actively participate in these processes. PROFONANPE will facilitate the necessary processes and promote legal and regulatory adjustments as required for the success of the process.

A theory of change diagram is presented in figure E.2.1 and provides the logical underpinning of the project. Specifically, the theory of change highlights the relation between “activities”, here indicated by the actions contemplated in each component, and the main “products” or expected outputs from the execution of the activities. For the successful achievement of the products, under the current sociopolitical environment some hypotheses are needed, as shown in the figure as assumptions. The right half of the figure provides the link between the “products”

and the expected outcomes, or project “results”. It also indicates that if sustainable natural resources management is achieved and the responsibility for managing the resources is entrusted to the users of the natural resources, then the carbon stock in Datem del Marañón’s peatlands will be preserved and protected by the indigenous communities to further their interests. From “results” to “impacts” we assumed, as indicated in the figure, that improvements in land security enhance the effectiveness of natural resources management, that land-use planning provides good guidance for natural resources management, and that natural resources operational management plans, agreed by the users, sanctioned by government, and managed by the beneficiaries, are efficient means by which to achieve sustainable use of natural resources.

Figure E.2.1. Theory of Change Building Resilience in Wetlands



E.2.2. Potential for knowledge and learning

The Building resilience in the wetlands of Datem del Marañón project includes a series of capacity-building packages for indigenous people aiming to strengthen their capacity to participate in innovative business models as well as to get more closely involved in the land-use planning process jointly with local government. This project also incorporates component 4 activities related to knowledge management. In particular, the project will implement a comprehensive M&E system, document its activities, promote the sharing of experiences and disseminate its findings. The project is posed to conduct at least three comprehensive evaluations: at the end of the first year, a mid-term review and an end of project evaluation. Each exercise will include the identification of lessons learned and their dissemination.

The project also includes a science and technology component, which is expected to share experiences and disseminate results.

E.2.3. Contribution to the creation of an enabling environment

Consensus building among key stakeholders, including government, indigenous groups and private-sector actors, is a difficult, largely neglected task due to its large transaction costs. Nonetheless, many experiences confirm that sharing a common vision is a very efficient and effective mechanism through which to achieve societal goals. The Building resilience in the wetlands of Datem del Marañón project approach could be described as developing a pragmatic mechanism through which to build consensus in the operational management of wetlands and associated lands. The project has selected several planning instruments to be formulated through a transparent and open participatory process, guided by the entity entrusted with its enactment, and facilitated through the project. Technical assistance, training, logistical support and coordination are the responsibilities of the project, together with the facilitation process to allow all actors to express their views, expectations and contributions, and to reach agreements for the benefit of all participants. It is hoped that after several similar participatory processes, community leaders, public officials and leaders from the private sector will learn that such an approach is valid and worth the additional initial transaction costs, and that reaching agreements is an effective means of managing relationships with other societal actors.

The project will strengthen private-sector participation through its support for the definition of clear land-use plans and sustainable operational management plans. Both instruments should reduce the transaction costs of setting up new businesses and increase the efficiency of government licensing entities.

The project will also support and enhance bio-businesses by strengthening the commercialization of their products and fostering innovation. Successful experiences will be documented and disseminated.

E.2.4. Contribution to regulatory framework and policies

The project has been classified as proof-of-concept. The province where the project is located lacks of the most basic land-use planning instruments that could guide sustainable use of natural resources. These instruments will be built jointly between native communities and local government as a first step towards ensuring long-term sustainable development of the province. The project will also analyse the institutional environment and suggest options to facilitate participatory, open and transparent planning processes.

Furthermore, the participatory process for land-use planning, POT, will be closely documented and lessons from this experience will be shared with the national government. Legal and regulatory adjustments, as required for effective planning, will be suggested through white papers.

E.3. Sustainable Development Potential

Wider benefits and priorities

E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact

The sustainable development potential as a result of project implementation is significant, given the characteristics of PDM, the fourth-largest province in Peru. The province is equivalent in size to the Dominican Republic or Costa Rica. It has one of the country's lowest population densities, with just over one person per square kilometre (km²). The tropical climate, with 87 per cent humidity and significant annual rainfall of 2,650 millimetres (mm), is combined with the large water resources of the three main rivers: the Pastaza, Morona and Marañón. The province is covered by tropical forest and wetlands, and has great biodiversity with nearly untouched forest reserves, aquatic resources with species of commercial value, as well as an abundance of fauna. The urban centres are small; San Lorenzo is the largest with 6,034 inhabitants. Seven indigenous peoples—the Wampis, Quechua, Candoshi, Awajún, Shapra,

Shawi and Achuar—are distributed in contiguous territories.

Environmental benefits

The most relevant impacts and benefits as a result of project implementation will be mainly related to improved biodiversity. The environment will be protected through a province-wide land-use plan (POT) by year five of project implementation. POT will be the result of multiple EMPs developed by each of the seven indigenous groups.

EMPs, developed with project support, will be the result of a concerted effort among the ethnic groups, represented by their federations, with provincial- and district-level political representatives. The indigenous groups will decide on the use of their natural resources and will follow the indigenous approach of protecting their environment and conducting limited exploitation of their resources through bio-businesses, thus creating a source of revenue while also protecting the environment.

The protection of the environment with clear POTs will limit the irrational exploitation of resources, preserve flora and fauna, and therefore protect carbon stocks mainly located in the wetlands, in an area totalling 338,000 ha (three ACAs).

Social benefits

Increased expenses for social services funded by bio-business revenue

With the successful implementation of component 3, at least 50 more bio-businesses will be in place by year five. These will create a solid income base to support investments in social areas, mainly in health and education. According to different studies, indigenous communities consider education and health as the third and fourth most important aspects for their livelihoods, with territory as the most important. The expected revenue generated by new businesses will benefit a considerable number of families. Using as an example the programme implemented over the past six years, we believe that an average project with an investment of USD 30,000 can benefit 67 families (see feasibility analysis in the project feasibility annex) by creating employment for some of them and redistributing benefits to the community. In view of the indicators of return on investment and positive cash flow from year one, the bio-businesses will continue to support the income of the region's families for many years by developing a solid revenue base that will foster social development.

Increased social capital through collective planning of territorial management

The development of the POT at provincial level, supported by the development of EMPs for indigenous peoples in each of the seven cultural groups, will be carried out by means of multiple meetings and discussions among members of a community as well as among communities at the provincial level. The building of trust and the management of conflicts will guide the planning processes. These will ultimately create social capital, understood as collective cooperation between individuals and groups to form a network and increase the productivity of the region as a whole. The underlying purpose of these discussions, focused on natural resources management, represents a very important concept related to social and economic aspects that are linked to productivity and the discussion of the best options to develop the economy by conserving the environment.

Improved access to education

Besides the fact mentioned previously that additional income from bio-businesses provides additional resources to spend on education, there is another benefit to education through courses, workshops and scholarships to be provided by project consultants or third parties in the region or in other cities. The project has estimated that a total of 250 community leaders will be directly trained by any of the modalities mentioned above, and a wider group of beneficiaries will be reached through the distribution of educational and information materials produced by the

project.

Economic benefits

The project will have an economic impact on the following categories. (A detailed estimate is provided in the feasibility study.)

1. Bio-businesses

Based on the results of bio-businesses supported by PROFONANPE during the past few years, the following table illustrates the potential economic impact of 50 new bio-businesses in sectors similar to those currently under operation.

**Table E.3.1. Potential impact of new bio-businesses
(Based on a selected sample of projects)**

Concept	Unit	Total 5 th year
Direct income generation	person	4,300
Accumulated cash flows	USD million	1.75
Accumulated purchases of goods and services	USD million	6.20
Accumulated revenue	USD million	7.92

2. Project implementation benefits

The project will have a significant impact on the region. It is estimated that close to USD 7 million will be spent in five years on: (a) investments in bio-businesses (equipment, consulting in the field, maintenance and expendables); and (b) expenses for transport, lodging, meals and materials for all courses and workshops, and the presence of six staff based in the field.

Table E.3.2. Allocation of project resources

Concept	Unit	Value
Bio-businesses	USD million	4.89
People living in the region who are directly employed	No. of employees	6
Expenses in the region (transport, lodging, meals, communications, etc.)	USD million	0.21

Non-quantifiable

1. Long-term planning will allow rational use of resources and enable their long-term exploitation.
2. Preservation of ecosystems through appropriate planning will allow a balanced approach to development and an equitable distribution of resources, thereby creating a sustainable and enabling environment that is ideal for attracting long-term investments.

Gender-sensitive development impact

The project will focus on gender-promotion activities through the following areas:

1. Bio-businesses:

Women play a significant role in the implementation of bio-businesses. In the production of hardwood floors, they play a role in the organizational and administrative tasks of the operation. In handicraft production, they have total control over production and administration. In the production of oil or pulp from *aguaje* and *ungurahui*, they participate in the family labour of collecting the fruits. They also participate in the cleaning, salting and freeze-drying of fish. For other products, including medicinal mud production and dragon’s blood, they also participate in the family labour of collecting the products from forest trees. At this time, no detailed information is available on the number of

women working in the bio-businesses, although during the consultation process, women voiced their support for the project and requested backing for more bio-businesses in their territories.

2. Training

The programme will include training activities with significant participation by women. Since these groups are a critical part of bio-businesses, the project will start with training programmes for the specific tasks required in each of the bio-businesses and will encourage leadership and participation in decision-making and control of all areas of the businesses. Although, at present, only men participate in the land-use planning process, our team will seek specific contexts in which women could make a meaningful contribution to these discussions.

In general terms, in order to incorporate women in spaces that allowed them to strengthen their abilities and decision, actions will be taken in a progressive way. On the first stage, there will be work with men, either from the community's directive board or associations in general, to raise awareness around the importance of women's participation in training spaces, in decision making processes and in their associations. The advantages of incorporating them in these spaces will be made visible to men; advantages in favor of their families, children, and in the development of the community in general will be highlighted. During the second stage, the project is designed to work with women in both, mixed spaces and exclusively, to promote their training and active participation in bio-businesses, in the climate change observatory and in other activities promoted with the project.

Additionally, the project will include positive discrimination measurements (assignment of scores or preferences) to assure that associations are conformed both by men and women, and even more, to assure that there are association exclusively integrated by women. The project will strongly support women associations to work in bio-businesses, among others. The work days or workshops developed with women will be done in hours that facilitate their participation and in their towns, so they do not have to travel and be away from their families.

A gender-sensitive social analysis will be developed in the first year of the Project, in order to examine the roles of women and men, according to their responsibilities, access, use and control over resources; as well as the problems, needs, opportunities and benefits obtained by each role. This analysis will allow Profonanpe's Project Management Unit, to establish an appropriate strategy to gradually incorporate women in project activities.

The project will therefore:

- Be aligned with the Law of Equal Opportunity between Men and Women (Law N°2893 of 2007);¹⁰
- Contribute to accomplish Strategic Objective 8 from the National Plan for Gender Equality 2012–2017, specifically: 8.1 Environmental management at national and regional level with a gender approach; 8.2 Risk management and natural disaster prevention, as well as natural resources management and care with a gender approach; and 8.3 Increase access and use of natural resources by women¹¹; and
- Allow PROFONANPE to participate in meetings for the preparation of the Gender Action Plan for Adaptation to Climate Change, and PROFONANPE will therefore assure that the project contributes to its accomplishment.

E.4. Needs of the Recipient

Vulnerability and financing needs of the beneficiary country and population

E.4.1. Vulnerability of country and beneficiary groups (Adaptation only)

Level of exposure to climate risks for the beneficiary country and groups

¹⁰ See

<http://www.mimp.gob.pe/files/programas_nacionales/pncvfs/legislacion/nacional/ley_28983_lio.pdf>.

¹¹ See <http://www.mimp.gob.pe/files/planes/planig_2012_2017.pdf>

Peru is included among the world's 10 most vulnerable countries to climate change (Tyndall Centre 2004). Moreover, its population continues to grow and its territory is subject to increasing threats by hydrometeorological phenomena. Peru has limited institutional and organizational capacity and resources to deal with the impacts of climate change.

Economic and social development level of the country and the affected population

Peru is one of Latin America's fastest-growing economies. Between 2002 and 2013, the average growth rate was 6.1 per cent in a context of low inflation (2.6 per cent on average). The effects of strong growth on employment and income have significantly reduced poverty rates and boosted shared prosperity. Between 2005 and 2013, poverty rates fell by more than half, from approximately 55.6 per cent to 22.7 per cent of the population (National Institute of Statistics and Information (*Instituto Nacional de Estadística e Informática* - INEI). In 2013, an estimated half a million people escaped poverty in the country. In addition, the share of the population living below the official extreme poverty line declined dramatically, from 15.8 per cent in 2005 to 4.7 per cent in 2013. Extreme poverty is highly rural and is concentrated in 8 per cent of Peru's districts.

Datem del Marañón is the country's third-poorest district, with its population distributed in 284 population centres. Poverty affects over 75 per cent of the population, while extreme poverty affects 42 per cent, reaching 61 per cent in Morona. Health services are provided through 42 local health centres coordinated from San Lorenzo. The local population suffers from a strong persistence of endemic diseases, such as hepatitis B, dengue and malaria. The health services provided do not yet meet the needs and culture of the people they should serve. These deficiencies contribute to educate failure and exacerbate extreme poverty in a vicious cycle of inequality, injustice and exclusion (Datem Marañón Health Network 2013). Education is provided through 203 educational centres at initial, primary and secondary levels; classrooms mostly have one teacher and multiple grades. There are 400 teachers and more than 10,578 students distributed among 280 communities.

Needs for strengthening institutions and implementation capacity

The current national environmental authority in Peru is the Ministry of Environment (*Ministerio del Ambiente* - MINAM), which has a General Directorate for Climate Change, Desertification and Water Resources (*Dirección General de Cambio Climático, Desertificación y Recursos Hídricos*), which is the focal point of the United Nations Framework Convention on Climate Change (UNFCCC) secretariat. MINAM chairs the National Commission on Climate Change (*Comisión Nacional de Cambio Climático*), founded in 1993 and amended in 2009, the role of which is to coordinate the implementation of the UNFCCC in various sectors and to design and promote the National Climate-Change Strategy (*Estrategia Nacional sobre Cambio Climático* (ENCC)). ENCC, adopted in 2003 and currently being updated, is part of all policies and activities related to climate change taking place in Peru.

The Organic Law of Regional Governments, which established the obligation to draft Regional Climate Change Strategies, was adopted in 2002. Three regions already have a Regional Climate Change Strategy; there are 9 Regional Technical Groups on Climate Change (*Grupos Técnicos Regionales de Cambio Climático*); and 11 have developed adaptation and mitigation projects under the National System of Public Investment (*Sistema Nacional de Inversión Pública* - SNIP). The National Centre for Strategic Planning (*Centro Nacional de Planeamiento Estratégico* - CEPLAN) was created to drive and develop joint planning, which has promoted the discussion of Plan Peru 2021–Strategic Plan for National Development incorporating policy guidelines on climate change adaptation and mitigation.

Despite these very impressive advances in strategic planning at the national level, government institutional capacity lags behind its many responsibilities, in particular in the provision of services to remote and low-population areas such as PDM in the Loreto Region. At regional and provincial levels, government capabilities are more limited.

Government presence in Datem del Marañón is rated as very low and practically non-existent. Moreover, according to the 2013 Report on Human Development in Peru by the United Nations Development Programme, PDM scored 0.4295 on the indicator of government presence, with the second lowest score in the country.

E.4.2. Financial, economic, social and institutional needs

Economic and social development level of the country and the affected population

The project will target the poorest group in the third poorest district in Peru. Resilience will be promoted through three core activities. The communities will be responsible for managing the natural resources in their respective territories, or in areas under EMP, sanctioned by the relevant authority. The project will also promote and support commercially viable bio-businesses that are proposed by the indigenous associations and enhanced through collaboration with a team of scientists and innovation engineers. In addition, the project will foster the preparation and implementation of community-based contingency plans to deal with extreme climate events, floods and droughts.

Absence of alternative sources of financing

Project activities do not require beneficiaries to be actively eligible for credit. Traditionally, indigenous communities have not fared well when non-traditional sources of financing have been offered. Indigenous peoples are not normally eligible for credit from formal financial institutions. As previously indicated, many are not in the public registry; therefore, from the point of view of financial institutions, they do not exist. However, as demonstrated by the previous PROFONANPE project in the area, with time and after a learning period, some native associations are in the process of becoming eligible for credit. The project will encourage and support indigenous associations in the long journey from non-registered persons, to persons with bank accounts, to persons eligible for credit.

Need for strengthening institutions and implementation capacity

In response to the institutional weaknesses exhibited by the government, the project contemplates strengthening its ability to conduct and formulate land-use plans as well as operational plans for natural resources management, while encouraging the devolution of responsibilities for the sustainable management of natural resources to users. Component 1 of the project aims at systematically strengthening the government's ability to formulate planning instruments as mandated by law. At each level, the project will provide support and technical assistance, and will prepare documentation for the conduct of their services. In addition, the project will prepare a white paper, summarizing lessons learned and suggesting adjustments in policy formulation, regulations and, in selected cases, existing laws. The selected strategy will facilitate the implementation of the planning processes. The main actors and stakeholders will receive training before and during the planning processes, participate, voice their opinions, listen to other participants, and negotiate and compromise on a common, agreed plan of action. The implementation of such plans will be in their best interest. Moreover, recent regulations indicate the allocation of preferential investment projects to 'anchor' agreed POTs. Furthermore, national government entities (ministries, special programmes, etc.) are encouraged, by law, to participate in the process and contribute to their implementation.

The implementation of land-use plans is a long-term endeavour that will require support and funding beyond the proposed project. PROFONANPE has pledged to remain in the region for the long term and will support the provincial government in the preparation of projects for consideration by the national government and donor community.

E.5. Country Ownership

Beneficiary country (ies) ownership of, and capacity to implement, a funded project or programme

E.5.1. Existence of a national climate strategy and consistency with existing plans and policies, including NAMAs, NAPAs and NAPs

Peru's ENCC was approved in 2003 and is currently being updated. This strategy is the framework for all policies and activities related to climate change in Peru. Its main objective is to reduce the adverse impacts of climate change through adaptation strategies implemented in the most vulnerable areas and/or sectors. It also controls GHG emissions through the use of renewable energy and energy-efficiency programmes in different production sectors.

The present project is closely related to 4 of the 11 strategic lines of action of ENCC, as listed below:

1. Promote and develop scientific, technological, social and economic research on climate change vulnerability, adaptation and mitigation;
2. Promote projects the objectives of which are to alleviate poverty, reduce vulnerability and/or mitigate GHG;
3. Manage forest ecosystems to mitigate vulnerability to climate change and enhance carbon sequestration capacity; and
4. Manage threatened ecosystems, in particular mountain ecosystems, to mitigate vulnerability to climate change.

The project will also further the objectives set by the national REDD-plus programme. Peru's readiness preparation proposal states that Peru has chosen to adopt a nested approach to REDD-plus. This approach should allow for different rates of implementation as technical capacities are developed, from the subnational to national levels. It is expected that reference scenarios and the national forest monitoring system will be developed in line with this approach. The national reference level will therefore be developed using a 'bottom-up' approach with regional deforestation forecasts aggregated to the national level. This approach will allow for the accounting of emission leakages between regions.

At the regional level, the project is aligned with the region of Loreto's Regional Climate-Change Strategy under the following strategic lines of action:

1. Promote projects the objectives of which are to alleviate poverty, reduce vulnerability and/or mitigate GHG;
2. Promote policies, measures and projects with techniques to develop the ability to adapt to the effects of climate change and reduce vulnerability;
3. Promote responsible management of forests and fragile ecosystems to mitigate their vulnerability to climate change and improve carbon sequestration capacity; and
4. Promote a forestry programme in the region of Loreto that will be profitable, sustainable and neutral to GHG emissions.

In addition to ENCC, the project is supported by other strategies mainly related to POT that enable the policy and institutional framework to make the project a success. POT-related activities will be held in agreement with the provincial municipality and the indigenous organizations with specialized technical assistance. The government agency partnering with PROFONANPE for this project is MINAM, which is leading the land-planning process in the country. MINAM has assigned a high priority to this project in order to complete a comprehensive planning process aimed at introducing the sustainable management of natural resources and preserving the wetlands' rich carbon stock.

Since the preparation of the concept note in February 2015 until the final version of the proposal was completed, PROFONANPE had several meetings with different divisions of the Ministry of Environment appointed by the focal point of the GCF in Peru (Deputy Minister for Strategic Development of Natural Resources). During these meetings, the following aspects were discussed: (a) project objectives, dimension and beneficiaries, (b) government

participation, (c) provision of data, (d) coordination with indigenous peoples' organizations, and (e) relationship with national strategies and plans.

E.5.2. Capacity of accredited entities and executing entities to deliver

PROFONANPE has implemented 36 programmes and projects during its 22 years of existence. Its experience in managing financial resources is demonstrated by its track record of attracting more than USD 152 million and channelling (as implementer or co-implementer) about USD 110 million. After having completed a six-year project in PDM, PROFONANPE is prepared to lead the implementation of this project. During its presence in the region, it has established solid relationships with community leaders of all native groups, with government authorities in the province and region, as well as with national government agencies.

PROFONANPE has developed procedures for the acquisition and procurement of goods and services, which are described in the operations manual. These were developed based on standards of multilateral cooperation, and their application is constantly audited and evaluated by donors.

The operations of PROFONANPE follow strict procedures to maintain the highest standards for its code of ethics and transparency. It also has experience in the implementation of environmental and social safeguards that include vulnerable populations. Currently, it has established its own procedures for the identification of impacts and risks from the implementation of its own activities and for the development of measures to mitigate such impacts and risks.

Based on years of experience in working with multilateral agencies, PROFONANPE has developed M&E processes and procedures to review the progress of results achieved in terms of objectives, indicators, and physical and financial goals set for each project in the course of its implementation. These procedures also include follow-up activities, including annual workplans, quarterly or semi-annual assessments, and reviews of studies and reports.

Previously, PROFONANPE assisted the process of land-use planning in the Pastaza Province, promoting a participatory methodology with indigenous communities. The process was facilitated by the indigenous federations in conjunction with the Provincial Municipality Datem Marañon, the Quechua people of Pastaza, the Chapra and the Kandozi people.

Other institutions that will participate in the implementation of this project include:

The national programme for forest conservation (*Programa Nacional de Conservación de Bosques*), serving as a member of the board of directors for this project and part of MINAM, will contribute to the programme with its experience and information on forest management, and the development of good practices for the promotion of productive activities.

SENAMHI will be part of this project as well as its co-funding agency. It is also part of MINAM and has more than 45 years of experience in providing public services, studies and research on climate measurement, hydrology, agrometeorology and climate change.

The Regional Government and the Provincial Municipality are subnational governments that have worked together with PROFONANPE on a previous project in the area. Their new leadership has demonstrated its commitment to carry out the project by providing co-financing to implement the local and province-wide planning exercise. The project will support both governments in the implementation of participatory planning processes. This approach promotes a shared vision and facilitates the formulation of agreed plans of actions among the key stakeholders and participants. If government plans have the full support of the stakeholders, their implementation is simplified.

Although the regional and provincial governments are weak, the suggested approach minimizes the demand of direct government involvement while increasing the likelihood of achieving results.

E.5.3. Engagement with civil society organizations and other relevant stakeholders

The project recognizes indigenous peoples as key partners in this project, who will ensure the achievement of the project's objectives. Previous work in the area enabled PROFONANPE to build trust with the communities of the seven ethnic groups to be included in this proposal.

Moreover, consultations took place during project design (23 June–1 August 2015) with representatives of these ethnic groups, as well as with the representative authorities of the two environmental conservation areas (ACAs) that are already constituted. During the consultations, more than 80 communities, represented by nearly 500 people and 21 organizations (federations, associations, committees, etc.), participated, and the project's components and activities were presented. (In the supporting social impact assessment document, the presentations are summarized, including the teaching material used.) The activities that captured the greatest interest of the participants included the sustainable use of natural resources through management plans and bio-businesses, as well as technical and vocational training. In most cases, they requested greater assistance in funding, training and technical assistance for the implementation of productive projects. They also asked that assemblies be held at the community level once the project is approved in order to inform the community. Women were present at the meetings; however, for cultural reasons, their participation was limited. Nevertheless, in informal settings (held at the end of participatory consultation meetings) they expressed their interest in voicing their opinions and their wish to participate in bio-business opportunities. The participants signed minutes to indicate their acceptance of, satisfaction with, and commitment to the proposed project. A recording of the consultation meetings is available at <https://youtu.be/LM8VeCPs-bY>.

Peru's readiness preparation proposal has created a participation and consultation plan based on guidelines for information sharing, and the participation and consultation of indigenous people interested in REDD-plus. Furthermore, the Forest Investment Programme contains the Actors Involvement and Participation Plan for Peru's Forest Investment Programme investment strategy. Both documents serve to ensure the involvement of stakeholders in the design and implementation of the National REDD-plus Strategy and support citizen participation and prior consultation processes where relevant. The consultation process also includes the inter-institutional dialogue at the national, regional and local levels. The main spaces for dialogue are the REDD Group Peru, the National indigenous REDD-plus roundtable, the Regional REDD-plus roundtables, the Interregional Amazon Council (*Consejo Interregional Amazónico*), the Regional Environmental Commission (*Comisión Ambiental Regional (CAR)*), the Municipal Environmental Commission (*Comisión Ambiental Municipal*) and the Forestry and Wildlife Management Committee (*Comité de Gestión Forestal y de Fauna Silvestre (CGFFS)*).

Under the framework of the National REDD-plus Strategy, an Attention to the Citizen Mechanism is being built. The project will adopt this mechanism once approved by the GOP.

E.6. Efficiency and Effectiveness

Economic and, if appropriate, financial soundness of the project/programme

E.6.1. Cost-effectiveness and efficiency

The financial structure for project implementation is presented in table E.6.1, which shows the allocation of resources among all four project components. The largest items are for direct labour with eight full-time staff (six in

the field and two in head office), research, consulting services and investments in bio-businesses.

The intensive demand for information and analysis to feed POTs, both at the level of ethnic groups' territories as well as at the provincial level, will require significant resources for consulting services as well as research from multiple local and international sources. The research on carbon stocks and the study of *aguajal* hydrology will be part of the research and consulting work as well as the development of advanced technologies to be adopted by bio-businesses.

The overall allocation of resources to develop the studies, and in general to construct and strengthen an institutional framework, will help overcome one of the biggest challenges of the GOP, that is allocating resources to basic studies of natural resources management. The lack of support at this time will postpone the POT exercise for many years, placing the management of critical resources at great risk and leaving the fragile environment vulnerable to irrational exploitation methods.

Investments in bio-businesses will not crowd out private investments. Instead, they will allow the expansion and consolidation of economies of scale that will increase the attractiveness of the area to private capital for investments in processing plants, storage facilities, transport infrastructure, and general services to supply materials and equipment to the potentially growing bio-businesses. Examples of the sustainable exploitation of natural resources in the Amazon rainforest are plentiful in Brazil, which has developed the economy of the region's inhabitants while maintaining and restoring the environment.

**Table E.6.1. Allocation of project resources
(United States dollars)**

ITEMS	Component 1	Component 2	Component 3	Component 4	Total
A. DIRECT LABOR	510,662	667,832	531,179	236,491	1,946,165
B. TRAVEL, TRANSPORTATION, AND PER DIEM	-	207,056	207,056	-	414,113
C. WORKSHOPS AND TRAININGS	-	465,213	465,213	-	930,426
D. PROCUREMENT	514,418	786,158	3,361,881	655,153	5,317,611
iv) Communications and marketing	-	-	-	230,000	230,000
v) Consulting services	183,703	263,340	-	75,000	522,042
vi) Research	-	242,103	-	-	242,103
vi) Investments in bio businesses	-	-	3,353,831	-	3,353,831
vii) Special programs	300,000	150,000	-	-	450,000
E. EXPENDABLE SUPPLIES	140,872	140,872	59,149	59,149	400,042
F. COMMUNICATIONS	32,440	32,440	7,765	7,765	80,408
G. OTHER DIRECT COSTS	5,309	5,309	5,309	5,309	21,237
Total	1,203,700	2,304,880	4,637,553	963,868	9,110,00

E.6.2. Co-financing, leveraging and mobilized long-term investments (mitigation only)

Thirty per cent of the project's budget will be provided by two different sources, as described in the table below. The largest contributor is the Government of the Republic of Korea with 20 per cent of total financing, followed by PROFONANPE with 12 per cent.

Other organizations will contribute their respective areas of expertise. For example, SENAMHI will contribute funds toward climate observation activities and equipment. The contribution from the provincial municipality will be mainly geared toward supporting the development of POTs and cooperation in other related project activities within the province.

**Table E.6.2. Co-financing for mitigation activities
(United States dollars)**

Financial instrument	Amount	Currency	Name of the institution
Grant	1.07	million USD	PROFONANPE
Grant	1.80	million USD	Korean Government
Total	2.87	million USD	

E.6.3. Financial viability

Throughout the development of POT for the province, the project will help establish a framework of institutional arrangements to manage the natural resources used by indigenous communities and will also help to establish clear rules for the sustainable exploitation of various products. This plan, accompanied by ACA management tools and the implementation of management areas, will enable the operation of multiple businesses, the most relevant of which are bio-businesses supported by the project.

Table E.6.3 shows the results achieved by PROFONANPE from a sample of seven bio-businesses implemented in the area. A more detailed presentation is provided in table 11 of the feasibility study.

As the results indicate, all of these bio-businesses achieved profits during their first year of operation and a positive return on investment. The encouraging results obtained so far, and the enhanced support that will be provided by the new project in terms of the amount of resources and support for technical, financial and marketing aspects, will further improve the chances of success and increase possibilities of viable, sustainable development in the long term.

Throughout the five-year planning process and the project's assistance to bio-businesses, all seven participating ethnic communities will learn about the importance of their resources in their respective territories and will acquire specific knowledge of potential business opportunities. This will provide the project with a good exit strategy.

**Table E.6.3. Bio-business sustainability
(Thousand United States dollars)**

	Product	Families	2015	2016
1	Fish Charapa Cocha - Fisher's Assoc. TAAKI	51		
	Total Earnings		11.67	12.02
	Total Cost		15.53	11.20
	Net Cash flow		(3.86)	0.82
	IRR		19%	
2	Fish Nueva Yarina - Fisher's Assoc. KATINBASCHI	60		
	Total Earnings (includes grocery store)		13.72	14.14
	Total Cost		15.58	12.02
	Net Cash flow		(1.85)	2.12
	IRR		117%	
3	Aguaje Pulp - Aguaje Prod. Assoc. – ASPROMAG	160		
	Total Earnings		55.70	58.49
	Total Cost		73.15	44.65
	Net Cash flow		(17.44)	13.84
	IRR		90%	
4	Aguaje Oil - Assoc. APUAPISEM (est.)	50		
	Total Earnings		66.67	70.00
	Total Cost		94.57	67.15
	Net Cash flow		(27.91)	2.85
	IRR		25%	
5	Fish and Wild Meat - Prod. Assoc. HUITOYACU	50		
	Total Earnings (data from 3 campaigns projected to 5)		19.32	19.90
	Total Cost		23.60	18.61
	Net Cash flow		(4.28)	1.29
	IRR		30%	
6	Dragon's blood - Achuar Prod. Assoc. URUCHNUM (est.)	28		
	Total Earnings		11.28	11.62
	Total Cost		13.73	10.07
	Net Cash flow		(2.44)	1.21
	IRR		49%	
7	Handicrafts - Assoc. of Idigenous Women AMIAH		-	
	Total Earnings		-	
	Total Cost		29.72	
	Net Cash flow		-	
	IRR		-	
7	Ice Factory - Fisher's Assoc. TAAKI (est.)	200		
	Total Earnings		19.37	19.95
	Total Cost		40.21	12.12
	Net Cash flow		(20.84)	1.89
	IRR		31%	
	Average Families Benefitted	86		
	Average Earnings		28.25	29.45
	Average Cost		39.48	25.12
	Average Cash flow		(11.23)	3.43
	Average IRR		44%	

Source: 2014. Systematization of Bio-Businesses Report. PROFONANPE.

Income impact on beneficiary families

Bio-businesses deliver direct and indirect economic and social benefits. Beneficiary families, as members of the bio-business association, have direct benefits from three main sources: (a) sale of products that they collect at preferential prices and rapid payment (e.g. fish, palm fruits or resins collected from lakes, rivers and forests); (b) salary compensation from employment in the business (association members that work in plants or administrative tasks and are compensated with salaries); and (c) profit sharing (surpluses that are reinvested in additional services like loans, grocery stores at reduced prices, etc.). The table below shows the estimations based on data presented in this report.

**Table E.6.4. Bio-business impact on the income of beneficiaries
(Average estimates for 2016–2020)**

	Season	No of Beneficiary Families	Baseline Income ² \$US	Income from sale of goods \$US	Income from Employment \$US	Profit Sharing \$US	Total Income Received \$US	Increase of Income from Baseline	Income per Family \$US	Proxy of Average Income per Season ¹ \$US	Income Received as % of Average Total Income per Season
Fish Charapa Cocha - Fisher's Assoc. TAAKI	3 months per year	51	3,889	6,481	776	870	12,066	210%	237	450	53%
Fish Nueva Yarina - Fisher's Assoc. KATINBASCHI	3 months per year	60	3,889	6,481	610	2,248	13,288	242%	221	450	49%
Aguaje Pulp - Aguaje Prod. Assoc. – ASPROMAG	3 months per year	160	17,888	29,813	7,808	17,224	72,893	308%	456	450	101%
Aguaje Oil - Assoc. APUAPISEM (est.)	3 months per year	50	32,069	53,449	7,843	6,056	99,467	210%	1,989	450	442%
Fish and Wild Meat - Prod. Assoc. HUITOYACU	3 months per year	50	7,875	13,124	198	1,369	22,616	187%	452	450	101%
Dragon's blood - Achuar Prod. Assoc. URUCHNUM (est.)	3 months per year	28	4,433	7,388	284	1,212	13,345	201%	477	450	106%
Ice Factory - Fisher's Assoc. TAAKI (est.)	Year	200			1,620	7,125	8,945		45	1,500	3%

Notes:

¹ Assuming 40% lower prices paid by intermediaries before the creation of the Association. Systematization Report of Selected Bio-Businesses. Profonampe 2014. Pages 48, 95, 197, 247, 292, 433.

² The proxy was estimated in \$150/month by two methods; 1) empirical verification of income equivalent to \$US 200/month per family during production season that can extend to three products and cover 9 months of the year (fish, meat, palm fruits); normally this is bartered for food and tools at very high prices; 2) estimation of the lowest minimum wage in Peru that corresponds to the Amazon Department based on data from IUS. Revista de Investigación Jurídica. El Debate Sobre el Salario Mínimo Diferenciado por Regiones en el Perú. María Areta Martínez. file:///C:/Users/SEGURA%20Consulting/Downloads/Dialnet-ElDebateSobreElSalarioMínimoDiferenciadoPorRegione-4492129%20(1).pdf.

Assuming that the baseline income for each product was 40 per cent lower as was determined by the PROFONANPE recent study in the region,¹² the increase in income with bio-business was more than threefold with an average total income (including income from employment and profit sharing) 3.26 times higher than the baseline. By the end of the project, it is estimated that 4,150 families will have benefitted from bio-businesses with an increase of income from the baseline similar to the average estimated above.

When compared to a proxy of average income for the season, the income generated by the bio-businesses can be significant. In some cases, like in the production of *aguaje* oil, the income for families participating in the association

¹² Estimates from consultants studying the implementation of bio-businesses in the region have confirmed that Associations pay 40% more for products delivered by its members (fish, wild meat and palm fruits) compared to prices paid by intermediaries. It was also found that shops set by associations, offer basic food stuffs as well as tools and supplies at prices 40% lower than what were paid to intermediaries.

may represent three times the average compensation.

Other indirect benefits as demonstrated by older bio-businesses like the commercialization of fish by the TAAKI Association and the KATINBASCHI Association show the following results made possible by the surplus generated by the bio-businesses:

1. Creation of basic grocery shops with 40 per cent lower prices;
2. Creation of shops to buy tools and production inputs at prices 40 per cent lower than intermediaries;
3. Short term loans to finance consumption, production and health and education needs;
4. Investment in an ice-making facility;
5. Investment in a transport fleet; and
6. Support to education services in the community.

Additional resources generated by bio-businesses represent higher incomes for the indigenous population increasing their living standards and improving their productivity (a preferred purchase by families is an additional boat with an engine), giving, women especially, increased mobility and opportunities to advance their interests and participation in the community. Surpluses accumulated by associations, as seen above, translate into even more benefits for the community, improving further its living standards and therefore the access for women to more work opportunities (shops employ women) and better services for the community.

Location of new bio-businesses

The new bio-businesses will be located in the most vulnerable areas for deforestation in the Marañón Basin (subwatersheds of the Cahuapanas) and the Pastaza Basin (subbasin of the Huitoyacu and the Pastaza Rivers).

Table E.6.5. Location of new bio-businesses

BASIN/COMMUNITY	BIO-BUSINESSES		Deforested Area (Has.)	Aguajales (Has.)	Total Area (Has.)	Percentage of Focus Area
MORONA BASIN	5	11				
Shoroya Nuevo, Nazareth, Puerto Luz (Tipishca), Caballito, Bagazán, Unanchay, Puerto Pijuyal, ACA Bajo Morona	Fish trade	Wood flooring, aguaje oil, dragon blood	7,885	220,638	1,050,865	44%
PASTAZA BASIN	12	14				
San Fernando, Chimara, Sungache, Loboayacu, Soplín. Río Huitoyacu - Cocha Huangana, Wijint, Pto. Pijuyal, Kuranda Cocha. Río Huitoyacu, Qda. Kuranda, Lago Rimachi, Río Huasaga, Lago Anatico, Río Manchari, ACA Humedales	Fish trade	Wood flooring, nutal products, wild meat, aguaje oil	18,164	494,322	1,863,099	30%
MARAÑÓN BASIN	1	2				
Sinchi Roca	Fish trade	Wood flooring, aguaje oil, dragon blood	19,482	132,026	416,066	13%
CAHUAPANAS BASIN		5				
		Wood flooring, aguaje oil, dragon blood	16,794	76,440	417,062	13%

E.6.4. Application of best practices

Incubator approach to bio-businesses

PROFONANPE will use the incubator approach to bio-businesses to develop tailored support for indigenous communities, based on successful experiences in other countries. The project will support communities in the following topics:

- 1) Financial management, including banking practices, contracts, and computerized business applications;
- 2) Business practices, including negotiation skills, regulatory obligations, tax payments and partnerships;
- 3) Developing and implementing business plans, accessing price and market information, and managing support from business schools and other forms of support; and
- 4) Communication tools, including the Internet, website design and management, connection with indigenous groups in other places, contacting mentors, and identifying successful cases.

Solar energy (solar photovoltaic and energy storage systems)

As an integrated activity of Component 2, the project will allocate funds to develop applications for clean and renewable energy in bio-business processes, such as equipment operation, lighting, cold storage and lyophilization (freeze-drying). This innovation is considered as a technological enhancement of bio-business, which improves their probability of success.

The project will receive support from the Government of the Republic of Korea to implement a pilot intervention for the adoption of solar photovoltaic (PV) and energy storage system (ESS) technology on multiple fronts. The initial step will be a feasibility study to identify the variety of activities that could adopt this technology, and the available sources around the world that meet technical and cost specifications of the Korean assistance. In August 2015, a preliminary analysis in the project area was carried out by a delegation from the Government of the Republic of Korea, as a way to produce more specific information on electricity needs of bio-businesses and site conditions. Based on the preliminary analysis, the Korean delegation identified 6 potential bio-businesses where solar PV and ESS will be implemented – three existing bio-businesses (including one *aguaje* oil plant, one *aguaje* pulp plant and one ice plant); and three new bio-businesses (including one *aguaje* oil plant, one *aguaje* pulp plant and one ice plant). The expected capacity of solar PV in an *aguaje* oil plant, an *aguaje* pulp plant and an ice plant are 8kW, 8kW, and 21kW, respectively. In the project, there are 9 existing bio-business plants and 22 new bio-business plants consuming electricity for their bio-business processes, however only a select number of bio-businesses can be included for installation of PVs and ESS due to a limited budget, and these numbers will be finalized upon completion of a feasibility study. Installation of solar PV and ESS will act as a clean technology demonstration project and will have a significant replicability potential throughout the isolated communities in the Amazon area. These investments by the Government of Korea will add value to the proposed project through piloting an innovative approach to integrate clean energy into sustainable land use and forest conservation.

Integration of Innovation and traditional knowledge

The project will allocate funds for a full-time staff member who will be in charge of knowledge management and innovation and will focus on studying and researching technologies that integrate scientific know-how with traditional indigenous knowledge. Some of the technologies pursued by this function will be related to high-precision natural resources measurement and management; development of practices with new technologies in forestry, harvesting, and processing; recycling programmes; and development of alternatives for nature-based energy production.

The knowledge management function will also work on integrating information management systems and will compile and systemize knowledge of sustainable natural resources management.

E.6.5. Key efficiency and effectiveness indicators

Estimated cost per t CO₂ eq, defined as total investment cost/expected lifetime emission reductions (mitigation only)

(a) Total project financing	USD 9.11 million
(b) Requested GCF amount	USD 6.24 million
(c) Expected emission reductions (10 years)	2.63 Mt CO ₂ eq
(d) Estimated cost per t CO ₂ eq (d = a/c)	<u>USD 3.46/t CO₂ eq</u>
(e) Estimated GCF cost per t CO ₂ eq removed (e = b/c)	<u>USD 2.37/t CO₂ eq</u>

Estimating avoided deforestation: preliminary analysis

The project will work in PDM, and the historical deforestation statistics have been estimated by MINAM and provided to PROFONANPE for this proposal, as indicated in figure C.1.1 and in map 10.4 in section I. The data indicate that in this century the average deforestation rate at provincial level is 2,234 ha/year and the loss of *aguajales* averages 102 ha/year. The historical loss of *aguajales* is depicted in figure C.1.2. The direct causes associated with the historical loss of forests in PDM are the expansion of the agricultural frontier by new settlers to the province, the exploitation of forests in indigenous lands by intermediaries and with the consent of some members of the communities, and the irrational application of traditional practices for collecting the fruit from palm trees by cutting the trees. Intermediaries have no incentives to apply sustainable practices because they have no stake in the land or its long-term productivity. The projection of future deforestation rates is a difficult task that must follow the national guidance of the REDD-plus initiative in Peru. Since such guidance is not available at this time, the baseline scenario is defined through simple analysis of the historical data. The intensification of short-term deforestation, using the Kernel method, is provided in map 10.5. Once the national guidance is available, the baseline scenario will be defined and communicated. For the purpose of this proposal, the following information is used to define the baseline scenario: three scenarios are estimated, from very conservative, conservative and high. The first scenario takes the average of the last 10 years and assumes that it will be the same during the project's 10-year planning horizon. The conservative or medium scenario estimates the linear trend depicted by the historical data and projects it to the 2016–2025 period. The high scenario, based on initial projections provided by MINAM, uses a non-linear approach to estimate future deforestation. The results are summarized as follows:

Accumulated deforestation in the 2016–2025 period:

- Very conservative scenario: 22,340 ha;
- Medium scenario: 40,780 ha; and
- High scenario: 67,560 ha.

Accumulated loss of *aguajales* in the 2016–2025 period:

- Very conservative scenario: 1,020 ha;
- Medium scenario: 1,956 ha; and
- High scenario: 5,380 ha.

GCF
core
indicators



Carbon emissions, based on the selected scenarios and the data indicated in table C.1.1 (best available scientific information) yields the following results of the carbon stock at risk, in million tonnes of carbon (Mt C) in 10 years:

- Very conservative scenario: 3.70 Mt C;
- Medium scenario: 6.80 Mt C; and
- High scenario: 13.10 Mt C.

The following hypotheses are the basis for estimating avoided deforestation:

For *aguajales*, the project will work in 338,000 of the province's 1,226,646 ha of wetlands. In the areas subjected to community management, the deforestation rate will be reduced in half.

For *terra firma* forests, the project will work in the territories of 120 of the 284 indigenous communities. In these areas, the deforestation rate will be reduced by 50 per cent. This expected reduction is a very conservative approximation, because data in Western Amazonia show that indigenous communities with secure land tenure exhibit low rates of illegal deforestation.

Under these hypotheses the avoided deforestation estimates are as follows:

Scenario	Avoided loss of <i>aguajales</i> : hectares	Avoided loss of terra firma forest: hectares	Avoided carbon: Mt CO ₂ eq
Conservative	141	4 720	2.63
Medium	270	8 615	4.83
High	742	14 273	8.92

Expected volume of finance to be leveraged by the proposed project/programme and as a result of the Fund's financing, disaggregated by public and private sources (mitigation only)

PROFONANPE has received a letter announcing a co-financing agreement of USD 1.8 million with the Government of the Republic of Korea to implement a specific programme to establish a solar PV and ESS for processing plants associated with sustainable bio-businesses. The activity will include the development of a master plan to identify renewable energy demand and adequate technology, installation and maintenance of solar PVs and ESS, training of local engineers for the operation and management O&M of solar PVs and ESS, and capacity-building activities for stakeholder engagement and awareness raising. A more detailed explanation of the programme can be found in the feasibility study.

Other relevant indicators (e.g., estimated cost per co-benefit generated as a result of the project/programme)

** The information can be drawn from the project/programme appraisal document*

F.1. Economic and Financial Analysis

Cost of avoided deforestation

Baseline estimate

Based on the conservative scenario, the expected deforestation without project intervention is estimated at 1,020 ha of *aguajales* and 22,340 ha of *terra firma* forest.

With-project conservative scenario

Assuming that the project improves forest management and follows best practices for similar areas, we estimate that deforestation will reach 879 ha of *aguajales* and 17,620 ha of *terra firma* forest.

Avoided deforestation and cost of carbon tonnes saved through deforestation

The calculations presented in section E.6.5 indicate that the avoided deforestation for the conservative baseline scenario is equivalent to 2.63 Mt CO₂ eq for the selected project's horizon of 10 years. When compared to project costs, this helps us to identify the cost of avoided deforestation per dollar spent by the project.

$$\frac{\text{GCF Project Cost}}{\text{Carbon Saved}} = \frac{\text{US\$7,003,807}}{2,630,000 \text{ Tons}} = \text{US\$2.66/t CO}_2\text{e}$$

Economic analysis

Cost–benefit analysis

Based on estimates presented in the previous section as well as detailed data from studies carried out on existing bio-businesses, table 15 presents the cost–benefit analysis of the project. We base our analysis on data estimated from seven bio-businesses studied in more detail in tables E.6.3 and 23 (from annex II - feasibility study).

Costs

The costs were estimated from the detailed breakdown presented in annex 2 (table 23), including the initial investment and recurrent costs of purchases of raw materials, labour, energy, transport, depreciation and other items. The average cost was then multiplied by the number of bio-businesses implemented every year as detailed in table F.1.2.

As part of the cost, we include the support that PROFONANPE is committed to provide beyond the life of the project to promote the creation of three additional bio-businesses every year.

We also include the investment for avoided emissions provided by the project consisting of the total amount of the project minus the items dedicated to support the bio-businesses. Finally, we include a variable that does not have a source of information but is added as an adjustment factor. In this case, we consider that the project can support an opportunity cost of leasing the land that we estimate in USD 500,000, a significant value close to 70 per cent of the total revenue from bio-businesses.



**Table F.1.1. Cost–benefit analysis
(Millions United States dollars)**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Costs	2.25	2.37	2.82	3.24	3.38	2.41	2.55	2.70	2.86	3.02
Bio-businesses costs	0.71	0.70	1.11	1.55	1.73	1.87	2.01	2.16	2.32	2.48
PROFONANPE support to bio-businesses	-	-	-	-	-	0.04	0.04	0.04	0.04	0.04
Investment for avoided emissions ¹	1.04	1.17	1.21	1.19	1.15	-	-	-	-	-
Opportunity cost of leasing the land ²	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Benefits	1.82	2.14	2.63	3.17	3.42	3.61	3.82	4.04	4.27	4.52
Bio-business revenues	0.51	0.82	1.32	1.86	2.10	2.30	2.50	2.72	2.96	3.21
Avoided CO2 emissions	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Net Cash Flow	(0.43)	(0.24)	(0.18)	(0.07)	0.04	1.20	1.27	1.34	1.42	1.50
Price of CO2 emissions (US\$/ton CO2e)	5									
Discount Factors										
Discount Rate	7%									
Base Year	2016									
Year Index	-	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00
Discount Factor	1.00	0.93	0.87	0.82	0.76	0.71	0.67	0.62	0.58	0.54
Discounted Flows										
Costs	2.25	2.22	2.46	2.65	2.58	1.72	1.70	1.68	1.66	1.64
Benefits	1.82	2.00	2.30	2.59	2.61	2.57	2.54	2.51	2.49	2.46
Net	(0.43)	(0.22)	(0.16)	(0.06)	0.03	0.86	0.84	0.83	0.82	0.82
Cumulative	(0.43)	(0.65)	(0.81)	(0.87)	(0.84)	0.02	0.87	1.70	2.52	3.34
Net Present Value	3.34									
Internal Rate of Return	39%									

Benefits

As benefits we include the value of revenues produced by bio-businesses created in the life of the project as shown in table F.1.2 and by those three bio-businesses added every year after the project ends until 2025. These new bio-businesses will be financed by PROFONANPE mainly to promote the development of value chains in order to improve efficiency and maximize the income generation for associations. Funds will also be used to provide specific technical support to existing bio-businesses.

A second category of benefits is the value of avoided emissions estimating it in 2,626,154 t CO₂ eq multiplied by USD 5/t CO₂ eq. The resulting cash flow is negative until the fourth year of the project when it will reach more than USD 1 million/year, by the sixth year.

Discounted flows, net present value and internal rate of return

Assuming a discount rate of 7 per cent, the project would be completely paid off by 2021 with a net present value of USD 3.34 million and an IRR of 39 per cent. Simulations of the cost-benefit model changing the opportunity cost can provide better indicators of present value as well as rate of return.

Return on investment

Due to the difficulties in estimating value and return on investment of activities related to institutional strengthening and indigenous community building, we consider the bio-businesses as the only category in this proposal that can be valued through market mechanisms.

Therefore, we estimated the return on investment of the project funds as measured by the average cash flow generated by the sample of seven bio-businesses presented in table E.6.3 (for more detail, see table 12 in annex 2). Based on the estimates presented in the previous section, we calculated the likely scenario of a return on investment of successful bio-business, assuming that:

1. The cash flow generated by future bio-businesses is equivalent to the average of the sample of seven bio-businesses presented in the previous section;
2. The new bio-businesses will reach a total of 50, with 5 in the first year and then 10, 15, 15 and 5, consecutively;
3. After the project ends, three additional bio-business will be created every year for five years until 2025 with support from the PROFONANPE endowment fund reaching a total of 78 units in 2025; and
4. The period of analysis is 10 years, until 2025.

Based on the above criteria, GCF funds invested in the programme, with Component 3 supporting bio-businesses, will have a return of 21 per cent.

Table F.1.2. Internal rate of return calculated on bio-businesses

	Total	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
CASH FLOW FROM BIO-BUSINESSES											
Average cash flow (in thousand \$us)		(11.23)	3.43	4.77	5.29	5.85	6.45	7.08	7.76	8.48	9.24
Bio-businesses in operation (Unit)	13	13									
New bio-businesses (Unit)	65	5	10	15	15	5	3	3	3	3	3
Total bio-businesses in operation (Unit)		18	28	43	58	63	66	69	72	75	78
Total cash flow (million of \$us)		(0.20)	0.10	0.21	0.31	0.37	0.43	0.49	0.56	0.64	0.72
INVESTMENTS											
GCF Contribution (million of \$us)	1.50	0.06	0.60	0.60	0.15	0.09					
Net Flow (million of \$us)		(0.26)	(0.50)	(0.39)	0.16	0.28	0.43	0.49	0.56	0.64	0.72
Internal Rate of Return		21%									

F.2. Technical Evaluation

Section C.2 provides information on the logical relation between the proposed activities and the identified threats. In particular the following subsections are highlighted:

- Responding to identified threats;
- Mitigation logical framework;
- Adaptation component logical framework; and
- Proposed strategy.

Solar power needs for the bio-businesses is provided in section E.6.4.

F.3. Environmental, Social Assessment, including Gender Considerations

PS1: Assessment and management of environmental and social risks and impacts. The project’s social and environmental classification is “C”. The project will not generate adverse environmental and social impacts and risks. Instead, institutional strengthening of government and community institutions, coupled with management plans for the sustainable use of natural resources for income-generating bio-businesses, will contribute to providing proper care for the natural resources base and to improving livelihoods in the province.

Negative environmental and social impacts and risks are minor and can be prevented and/or mitigated. A strong bond and trust have been built between PROFONANPE and indigenous communities in the area. This is one consideration that explains the indigenous communities’ request to join the project. Their full support for the project can be verified with the results obtained during the participatory process of social licensing (consultation) held in June 2015. Section E.5.3 summarizes the consultation process, indicating the participation of over 80 communities represented by nearly 500 people and 21 organizations (federations, associations, committees, etc.).

Prevention and mitigation measures for social and environmental impacts and risks have been designed and are summarized in the table below.

Project component	Related activity	Potential environmental and social risks	Prevention/mitigation measure
Component 1: Strengthened institutional capacity in government organizations	Institutional strengthening	Increased motor boat traffic and solid waste	<ul style="list-style-type: none"> - Plan trips efficiently to reduce motor boat traffic - Solid-waste disposal campaign
Component 2: Strengthening capacity of community-based institutions	Formulation and implementation of the land-use plans (POT) and natural resources management plans	Exclusion of minorities	<ul style="list-style-type: none"> - Create opportunities and mechanisms to promote dialogue and conflict resolution in order to protect the rights of minorities
	Institutional strengthening	Increased motor boat traffic and solid waste	The same as those established for Component 1
Component 3: Building resilience through sustainable bio-businesses	Promotion of bio-businesses	Unexpected changes in community organization	<ul style="list-style-type: none"> - Avoid concentration of power and money in a few individuals or households - Build self-esteem and cultural identity of indigenous communities - Create spaces for women’s participation in bio-businesses - Empower women in the logic of economic development - Promote the sharing of experiences between women from target groups and other women leaders - Consider inclusion in the project team of a professional sociologist or anthropologist to observe and evaluate any change in social dynamics of indigenous communities that could constitute a risk to the population

		Increased motor boat traffic and solid waste	The same as those established for Component 1
		Unsustainable harvesting of natural resources	- Strict monitoring of management plans
		Use of fossil fuel to generate energy for processing	- Use available town energy where possible and study the possibility of using renewable energy

If unforeseen impacts or risks arise during project implementation, specific measures will be established to prevent, correct and/or mitigate them. These must be included in the Environmental and Social Management System of PROFONANPE.

Engagement with stakeholders; communications and grievance mechanism

Consensus will be the preferred method in the negotiation of complaints and local demands. In particular, the project will expand the participatory monitoring process to include a space to gather suggestions, questions and complaints directly from the community (in contrast to the formal process in which the community leader provides feedback to project managers). All suggestions, questions and complaints will be documented, analysed and provided with a formal answer.

Furthermore, the PROFONANPE website will maintain an online format for users to make suggestions, ask questions, request information and file complaints. This correspondence will be sent to the Administration and Finance Director, and the Development and Supervision Director, who will have the responsibility to reply, when applicable. Project stakeholders will be informed about this procedure. It should also be mentioned that the Directorate of Development and Supervision of PROFONANPE will be in charge of implementing the environmental and social risk management system.

As it was mentioned in section E.5.3, under the framework of the National REDD-plus Strategy, a n Attention to the Citizen Mechanism is being built. The project will adopt this mechanism once approved by the GOP.

PS2. Labour and working conditions. PROFONANPE has high standards when hiring staff and rigorously applies all of Peru’s legal guidelines, in addition to standards set by international cooperation agencies. All staff recruitment takes place in a competitive and transparent manner, without discrimination, and is particularly respectful of local sensitivities where it works.

The project does not involve the permanent recruitment of indigenous staff. It seeks to empower communities to implement the actions identified as a result of the enactment of POT and natural resources management plans. This does not exclude the fact that, among consultants and technical staff, the project may give preference to those who are from the region and are of indigenous origin.

The project will not promote or force child labour. (In indigenous communities, underage children are traditionally involved in productive activities as apprentices and perform tasks suited to their abilities under adult supervision.)

PS3: Resource efficiency and pollution prevention. The project will not generate any significant pollution or GHG emissions. In addition, to avoid soil contamination and emissions from processing plants used for the transformation of biodiversity products, alternative-energy generation based on renewable resources will be tested. Innovation in bio-businesses will be promoted to ensure the processing efficiency of sustainably harvested products.

PS4: Community health, safety and security. The project will ensure that health and safety conditions apply to communities and personnel working on project activities: for example, the use of life jackets on motor boat trips. Furthermore, the project will ensure that all sanitation and safety regulations required by the relevant offices issuing authorizations—fisheries, forestry, processing plants—are complied with. A registry of incidents and accidents will be kept so that corrective measures may be implemented.

PS5. Land acquisition and involuntary resettlement. The project will not generate the displacement of indigenous communities. Instead, it will strengthen legal security by promoting land titling and land-use planning. It seeks the sustainable use of, and unrestricted access to, natural resources in the province, without discriminating between indigenous and non-indigenous peoples. There is a possibility that non-indigenous peoples and persons from outside the territory may inhabit the same territory as project beneficiaries. In these cases, the project will develop a policy of intercultural interaction as is currently being implemented in ACAs.

PS6: Biodiversity conservation and sustainable management of living natural resources. The project will contribute to protecting and conserving Amazonian biodiversity and ecosystem services by applying community management plans to large areas of wetlands. Income generation based on sustainably managing and adding value to local natural resources will provide additional reasons for communities and government agencies to care for and oversee the resource base. The existing bio-businesses have management plans based on biodiversity conservation principles. These plans are updated periodically and have strict reporting requirements.

PS7. Indigenous peoples. Indigenous peoples are understood as peoples whose ancestors were in territories that were conquered and have preserved cultural institutions and their own identity. In Peru, the State has recognized the rights of 54 indigenous or native peoples, including 7 ethnic groups of this project (<<http://bdpi.cultura.gob.pe/introduccion>>). To date there is no information on the composition of men and women. However, it is estimated that women make up 50 per cent of the population in the area.

The main socioeconomic activities common to all indigenous peoples are subsistence agriculture (farms), fishing, hunting, timber extraction to commercialization and extraction of non-timber species with food, craft or medicinal purposes.

The project will ensure full respect for indigenous peoples. It will be implemented in indigenous territories where activities can only be carried out with prior informed consent. Its design included this process, as a result of which the social licensing of the project was obtained. This process included an intercultural approach and was gender sensitive.

The project will develop a process of information and permanent dialogue with indigenous peoples, so that all decisions regarding it will be taken with consensus as the preferred method.

The project will develop guidelines for social safeguards implementation and all actors involved in it will be trained in their use so that all can apply the safeguards. Finally, the project includes a strong tracking component to periodically report on its implementation.

The project does not require an indigenous peoples plan because the beneficiaries of the entire project are indigenous peoples. Nonetheless, the project will prepare such plans with the communities as elements of the POT process.

PS8. Cultural heritage. The project will fully respect the cultural heritage of indigenous populations. Archaeological remains in the area must still be legally recognized by the national authority; the Ministry of Culture. If the project finds archaeological remains or elements of the cultural heritage of ethnic groups and communities, it will follow the rules and guidelines laid down in the Regulations for Archaeological Intervention (RIA). The corresponding decree stipulates that chance archaeological findings should be reported to the Regional Directorate of Culture (for the project, the directorate is located in Iquitos), which in turn is under the Ministry of Culture. This directorate is responsible for undertaking archaeological assessments, will determine the existence and extent of the remains found, and will take

the required actions in coordination with the project team. The project will take steps to prevent these remains from being damaged and promote their conservation. Part of the project is located within the *Abanico del Pastaza* Wetland Complex Ramsar Site, which could be considered a natural heritage site since it will also contribute to the protection of this wetland of international importance.

Gender

Based on cultural aspects, indigenous families have well-defined roles for their members. Men are responsible for hunting, fishing and forest resource gathering, while women are in charge of food preparation and childcare. Work on the farm (*chacra*), where *yuca* (*Manihot esculenta*) is the principal product, is an activity performed by both men and women.

Although men carry out extractive activities, the processing and conservation activities will incorporate women. According to the experience of the Pastaza Morona–First Stage Project with bio-business implementation, women were included in the productive transformation and preservation process (*aguaje* fruit processing, drying and salting fish), and in the production of handicrafts and ceramics. Taking these experiences into account, the project will create spaces for the gradual participation of women in bio-businesses and will train them in economic development issues, and promote their role in forest management and participatory monitoring. Furthermore, it will promote the sharing of experiences with women leaders of other indigenous groups, while respecting their traditional customs, and will promote to the extent possible their access to financial products, as part of the component to support indigenous peoples' registration and access to finance.

Currently, most women in the seven native communities only speak their native language. In that sense, the project will be respectful of their culture and will seek to achieve the gradual participation of women in community meetings, enabling the conduction of such meetings in each population's language.

There is a considerable gap in socioeconomic and family composition data and information on the ethnic groups in PDM. It will take a long time to build trust before such information can be collected. The proposed M&E system will seek to gather such data.

PROFONANPE will seek a balanced participation of women in the field office. If feasible, no less than 50 per cent of the project's personnel in Datem del Marañón will be women.

F.4. Financial Management and Procurement

PROFONANPE has expertise in working with donor funds and has a good track record in implementing or co-implementing 36 programmes and projects using sound financial management practices. The PROFONANPE Directorate of Administration and Finance adheres to policies and procedures that meet donor agencies' requirements. For this project, it will be responsible for fiduciary aspects and will be accountable for all financial and investment activities.

With regard to accounting policies and procedures, the principal regulatory framework for the project's financial management will comprise: (a) Peru's laws governing budget and financial management for the private sector; and (b) the operating manuals and norms of PROFONANPE, which include acceptable accounting policies and procedures. The tailor-made administrative management integrated system (*Sistema Integrado de Gestión Administrativa*) of PROFONANPE enables the recording of the entity's transactions through the use of international accounting standards. Financial statements are prepared using the accrual basis of accounting and the standard chart of accounts accepted in Peru.

A specific bank account, in United States dollars, is set up for the project and resources are changed to local currency

according to the project's requirements.

PROFONANPE does not have an internal audit department. However, it has a control specialist, reporting to the Director of Administration and Finance, in charge of: (a) checking all payment support documents and ensuring compliance with the donor's hiring and procurement conditions; (b) checking compliance with terms of contracts for the procurement of goods and services, in regard to deliverables, deadlines, service conformity, amounts and characteristics or delivered goods or equipment, work assessments, and work progress reports; and (c) ensuring payment vouchers comply with tax regulations. Furthermore, PROFONANPE has an internal audit committee designated by its Board of Directors that follows and controls an external auditing process. In addition, the administrative staff of PROFONANPE has established periodic and spot-check reviews (in situ) of programmes' and projects' accounting and financing procedures. The purpose of these reviews is to verify the accuracy of the documents and to ensure that agreed activities have been implemented using internal regulations.

The budget for travel and per diems is consistent with the policy of PROFONANPE, and is the same one applied to all projects in the area. The rates are arrived after taking into account the most recent information gathered in the region.

G.1. Risk Assessment Summary

The following risks have been identified:

Financial risks: No relevant risk has been identified in this category. PROFONANPE has over 20 years of experience in managing, channelling, supporting and supervising project execution, with considerable success in carrying out its fiduciary responsibilities. Delay in securing co-financing, other than the endowment fund of PROFONANPE, does not affect the proposed core activities. Given that the Government of the Republic Korea is co-financing a technology-enhancing component, no risk is associated with such a grant, planned to become effective by the fourth quarter of 2016.

Technical risks: The project does not include complex technologies. Natural products (pulp, flour, oils) are processed/extracted through the use of proven technologies, which the project seeks to adapt to the particular setting of the Amazon Basin and to improve through innovation and science.

Operational risks: (a) Development of a negative perception of project activities or personnel by key stakeholders; and (b) difficulties in hiring proficient and experienced personnel to work in Datem del Marañón for the duration of the project. Other operational risks include: market failure and lack of local skills related to the maintenance of the bio-business' equipment.

Social risks: Potential heightening of social tensions associated with newcomers and immigrants to the province. As indicated in the analysis of threats to the area of interest, very strong external forces are exerting pressure on Datem del Marañón. These include illegal forest harvesting and cutting and/or the search for highly adaptable areas for palm oil plantations.

Environmental risks: Although the project's environmental category is "C" (very low environmental impact), other external environmental events could disrupt the project's performance: (a) severe droughts and associated fires; and (b) large oil spills that affect swamps, *aguajales*, and associated ecosystems, killing vegetation and reducing production of inputs for bio-businesses. Such events could force the communities to seek other areas to harvest; this could have potential social, economic and environmental consequences.

Political risks: Elections for the executive and legislative branches are to be held in 2016. Political shifts could reduce the national government's interest in channelling resources to the project area.

Performance risks: External market conditions or lower than expected demand could affect the performance of bio-businesses.

G.2. Risk Factors and Mitigation Measures

Selected Risk Factor 1

Description	Risk category	Level of risk	Probability of risk occurring
Development of a negative perception of project activities or personnel by key stakeholders. Although the previous project built trust with all indigenous communities, there is a potential risk for the relationship to sour with some key stakeholders. The likely consequence would be a protracted project, with	Technical and operational	Low (<5% of project value)	Low

uncertainty about the achievement of key outputs and results.			
Mitigation Measure(s)			
The project implementation team will continue with its successful strategy of entrusting all decision-making authority to the communities and acting as the principal facilitator, trainer and source for technical assistance. The Project Manager will exercise utmost respect for the communities, their customs and governance structures.			
Selected Risk Factor 2			
Description	Risk category	Level of risk	Probability of risk occurring
Difficulties in hiring proficient and experienced personnel to work in Datem del Marañón for the duration of the project. Living conditions in the project area are difficult, communications are poor, and trips to and from Lima take two or more days each way. The area has limited health services, making health issues a major concern for those willing to work in Datem del Marañón. Under these circumstances, the pool of competent and experienced professionals is limited, and selecting the right personnel is critical.	Technical and operational	Low (<5% of project value)	Low
Mitigation Measure(s)			
PROFONAPE offers competitive salaries and has the reputation of being “a good place to work”. In addition, frequent travel to Lima might be agreed in order to attract candidates. A national competitive process will be implemented. If the right candidate is found, PROFONANPE will negotiate his/her participation. At least three of the main professionals in the field will be women, including the Project Manager.			
Selected Risk Factor 3			
Description	Risk category	Level of risk	Probability of risk occurring
Potential heightening of social tensions associated with newcomers and immigrants to the province. In the past, violence has erupted as a consequence of immigrants and others moving into the area. Such events have the potential to disrupt field activities, delay meetings and actions, prevent the normal flow of work, and increase transaction costs.	Social and environmental	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
This type of event is difficult to predict in a large area with a sparse population and minimum government presence. The project has included the training of indigenous communities and associations in conflict-resolution methods.			

Peaceful resolution of differences will be encouraged, as well as through example in the implementation of the project activities. The project will ensure to set a monitoring plan to provide early warning on any potential social conflict. In addition to that, a grievance mechanism will be put in place as part of the activities of the project.

Selected Risk Factor 4

Description	Risk category	Level of risk	Probability of risk occurring
Severe droughts and associated fires have proved to be potentially very disruptive to life and economic activities in the Amazon. Transportation is severely curtailed, natural productivity is reduced, the quality of forest products has changed, and more time is needed to find food. In addition, forest fires could become a real threat to communities unfamiliar with the phenomena and lacking the skills necessary to survive and/or contain fires. Health issues could be aggravated as a consequence of smoke.	Social and environmental	Low (<5% of project value)	Low

Mitigation Measure(s)

Droughts take time to develop. Contingency plans could be formulated with the support of experts brought into the region. The project is building social capital by strengthening the social and support network in Datem del Marañón, and will use this network to disseminate good practices, strengthen awareness, train personnel, heighten surveillance and monitoring, and facilitate the formulation of contingency plans. Resources could be diverted for these activities if needed. PROFONANPE will work with MINAM and the General Directorate of Forestry in the development of a national plan of action to address the increasing likelihood of forest fires in the Amazon. Such a plan of action has not yet been developed.

Selected Risk Factor 5

Description	Risk category	Level of risk	Probability of risk occurring
Large oil spills that affect swamps, <i>aguajales</i> , and associated ecosystems, killing vegetation and reducing the production of inputs for bio-businesses.	Social and environmental	Low (<5% of project value)	Low

Mitigation Measure(s)

Oil spills have a long history in the province: production wells are common and oil pipelines criss-cross its territory. A large oil spill could affect swamps, lakes and swamp forests, and could produce forest fires if it occurs during dry conditions or drought events. The responsibility for dealing with these events is outside of the project's sphere of influence. The project will provide support in developing appropriate emergency preparedness plans, including communications with relevant authorities to inform and seek assistance in case of an emergency. It could facilitate dialogue and encourage peaceful resolution of the generated conflict. At the request of the communities affected, the project could provide training and technical assistance to develop good practices for living and coping with the consequences of such events until definite action is taken.

Selected Risk Factor 6			
Description	Risk category	Level of risk	Probability of risk occurring
<p>Political shifts could reduce the national government's interest in channelling resources to the project area and potentially change incentives to promote palm oil development. Because Peru is facing a new election cycle, it is clear that support for one of the country's poorest provinces, with a very sparse population and even lower political leverage, is highly dependent on the elected officials and their preferences. An adverse result could bring sharp reductions in government investment and support for Datem del Marañón. From the project's perspective, this could imply a reduction in cooperation and protracted bureaucratic processes that might delay the adoption of decisions.</p>	Other	High (>20% of project value)	Medium
Mitigation Measure(s)			
<p>The project is well established in the region and the province. It has gained the support of all levels of government. Building this relationship has required time and perseverance, as well as trust-building activities. The two main mitigation options to be implemented are: (a) "early engagement" (i.e. provision of information and data to disseminate expected outcomes); and (b) "awareness creation" through well-orchestrated events to disseminate the project and its achievements.</p> <p>It is also important to note that the project will coordinate with the relevant governmental organizations at the national level to mitigate these risks, including the Forestry Service (SERFOR), the Ministry of Agriculture (MINAGRI), and the National Program of Forest Conservation (PNCB) at the Ministry of Environment (MINAM), more specifically in regard to the agricultural development and palm oil Nationally Appropriate Mitigation Action (NAMA) currently under preparation.</p>			
Selected Risk Factor 7			
Description	Risk category	Level of risk	Probability of risk occurring
<p>Political risk arising from the indigenous communities' registration and land titling, including potential conflict between different groups, and the inability of the independent Redress Mechanism to solve conflicts and to solve them in a timely manner. If these risks were to materialize, they would affect not only the project, but through legal and reputational risks, both the accredited entity and the GCF.</p>	Other	Medium (5.1-20% of project value)	Medium

Mitigation Measure(s)			
<p>The project is well aware of the long fight of indigenous communities to gain legal tenure of their territories. PROFONANPE has gained the support of all levels of government. Building this relationship has required time and perseverance, as well as trust-building activities. The main mitigation measures to be implemented are:</p> <p>(a) Transparency in communication, stressing that the project has no land titling component;</p> <p>(b) The Project will facilitate the registration of indigenous peoples with the National Registry, giving rights to those legally recognized by the State, and as an early step in the process of land titling in Peru.</p> <p>(c) Participation in project's activities will be conditioned to peaceful and respectful assembly of all interested parties to create a common vision for their territory. Conflict resolution training will be provided before the start of all planning including community planning for the use of their natural resources;</p> <p>(d) Dissemination of the project's scope and components will continue during the entire live of the activities.</p> <p>It is important to note that the project will not encourage land titling, instead it seeks to build consensus on long term land-use planning of the territory already allocated to indigenous communities but also to promote conservation areas which are to be managed by both local governments and indigenous communities. For example, Component 1, strengthening government agencies, seeks to build the enabling environment to: (i) give natural resources users the responsibility to manage their territory; and, (ii) give legal protection to bio-business through approved Management Plans. It is also relevant to indicate that representatives of indigenous groups at the local and national, level will get involved in the decision making process of the project as members of the board of the project with a yearly rotation period.</p>			
Selected Risk Factor 8			
Description	Risk category	Level of risk	Probability of risk occurring
The potential failure of the bio-business is also critical for ensuring the sustainability of the economic activities which are innovative products with high transaction costs.	Other	Low (<5% of project value)	Medium
Mitigation Measure(s)			
<p>The bio-business includes a diversified portfolio of alternatives for some of which the project relies on previous experience from PROFONANPE. In addition, strong components related to marketing nationally and internationally are considered in the project activities. The project already includes the assumption that there will be a failure rate of 20 per cent, and includes an endowment fund mechanism to provide technical assistance to struggling bio-businesses and supports the creation of new ones.</p>			
Selected Risk Factor 9			
Description	Risk category	Level of risk	Probability of risk occurring
No-materialization, or materialization of a lower amount of co-financing could compromise the	Financial	Low (<5% of project value)	Low

provision of energy to the processing plants of bio-businesses and boats.			
Mitigation Measure(s)			
<p>The project has received a commitment letter from the Government of the Republic of Korea. Talks have confirmed co-financing to the value of USD 1.8 million. In case the co-financing does not fully materialize, bio-businesses will have access to conventional sources of energy, such as diesel generators.</p>			

** Please expand this sub-section when needed to address all potential material and relevant risks.*

H.1. Logic Framework.

Please specify the logic framework in accordance with the GCF's [Performance Measurement Framework](#) under the [Results Management Framework](#).

H.1.1. Paradigm Shift Objectives and Impacts at the Fund level ¹³						
Paradigm shift objectives						
<i>Shift to low-emission sustainable development pathways</i>	The project will preserve one of the world's largest carbon stocks. Due to the nature of the peatlands and their strong vulnerability to intense droughts and anthropogenic forces, the project will create enabling conditions for users to sustainably manage their natural resource base.					
Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term (if applicable)	Final	
Fund-level impacts						
<i>M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks</i>	M4.1 Tonnes of carbon dioxide equivalent (t CO ₂ eq) reduced or avoided (including increased removals) as a result of GCF-funded projects/programmes—forest and land-use subindicator	Average C content in forest class times avoided deforestation, using the measurement, reporting and verification (MRV) system being developed at the national level and data generated at the local level	0 t CO ₂ eq	0.65 Mt	1.31 Mt CO ₂ after 5 years and 2.63 Mt CO ₂ after 10 years	1. MINAM, through the national MRV programme, collects detailed data on deforestation through satellites. 2. Communities and local governments enforce land-use plans against palm oil development and illegal logging
<i>A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions</i>	A1.2 Number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options (including fisheries, agriculture, tourism, etc.)	Data collected from families participating in bio-business collected from internal reports biannually	5 000 (1 079 families)	11 000 (Population assessment from 20 new bio-businesses times estimated average)	20 400 (4 150 families).	Communities secure approved management plans for bio-businesses; participation in bio-businesses promoted by leaders of the community

¹³ Information on the expected results and indicators of the GCF can be found in its performance Measurement frameworks available at the following link (Please note that some indicators are under refinement): http://www.gcfund.org/fileadmin/00_customer/documents/Operations/5.3_Initial_PMF.pdf.

		and annually		number of participants)		
A 4.0 Improved resilience of ecosystems and ecosystem services	A 4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change	Areas under approved management plans (hectares)	Two ACAs operating 330 000 ha		3 ACAs: 338 000 ha	Authorities approve management plans Approved management plans add value to bio-businesses

H.1.2. Outcomes, Outputs, Activities and Inputs at Project/Programme level						
Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term (if applicable)	Final	
Project/programme outcomes	Outcomes that contribute to Fund-level impacts					
M9.0 Improved management of land or forest areas contributing to emission reductions	M9.1 Hectares of land or forests under improved and effective management that contributes to CO ₂ emission reductions	National Forest Conservation Programme data using the MRV system being developed at the national level and data generated at the local level	34 356	100 000	338 000	MINAM, through the national MRV programme, collects detailed data on deforestation through satellites. Project studies will provide better estimates of carbon avoided
M5.0 Strengthened institutional and regulatory systems	M5.1 Institutional and regulatory systems that improve incentives for low-emission planning and development and their effective implementation	Participatory planning process agreed by key stakeholders Land-use plan approved	0	–	1	Indigenous peoples agree on delimitation of their territory; regulatory stability
Volume of leveraged financing	Amount of funds leveraged through bio-businesses and other project activities	Bio-businesses' reports and studies and mid-term and final evaluations	USD0	USD 1 million	USD 2.9 million	Willingness and financial capability of associations to access additional financing
Other project/programme outcome	Outcomes that do not directly contribute to Fund-level impacts					

Component 3: Bio-businesses increase income of indigenous communities	Number of bio-businesses operating with positive cash flow	Financial statements with positive cash flow	13 bio-businesses	33 bio-businesses	63 bio-businesses	Communities' interest; favourable/stable market conditions
Project/programme outputs	Outputs that contribute to outcomes					
Component 1: Strengthened institutional capacity in government organizations						
1.1. Indigenous peoples registered	1.1.1. Number of registration campaigns	Annual reports	0	7	7 (1 for each ethnic group)	Communities' interest
	1.1.2. Number of indigenous people with identity national document (DNI) registered during project implementation	Public registry	0	1 000	3 000	Communities' interest
1.2. Land-use plan (POT) approved	1.2.1. POT ordinance issued	Land-use plan ordinance	0	–	1	Indigenous peoples' interest and political will
1.3. New ACA established	1.3.1. ACA established	Ordinance enacting the new ACA	2	–	1	Indigenous peoples' interest and political will
1.4. Conflict-resolution authority granted to ACAs	1.4.1. Document on legal analysis and interpretation	Document on legal analysis and interpretation	0	–	1	
	1.4.2. Number of trained staff	Annual reports	1	10	20	Political will
1.5. Provincial climate change strategy adopted	1.5.1. Number of districts implementing the climate change strategy	Annual reports from the province on action plan implementation	0	2	6	Political will
1.6. Climate monitoring system in operation	1.6.1. Number of reports documenting traditional knowledge	Reports on climate monitoring	0	1	4	Communities' interest
1.7. ZEE concluded for the province	1.7.1. ZEE concluded and submitted	ZEE document	0	–	1	Political will
1.8. Region's climate change strategy updated	1.8.1. Number of provincial proposals submitted to the region to update the climate change strategy	Proposal reports	0	–	1	Political will
1.9. White papers on legislation for communities' land resources management produced	1.9.1. Amount of feedback on white papers received (forest, lakes, wetlands)	Papers submitted	0	1	3	Communities' interest and political will
1.10. GIS-based information for environmental monitoring system in operation	1.10.1. Number of database sets submitted (forest, lakes, wetlands)	Annual reports	0	1	3	
Component 2: Strengthened capacity of community-based institutions						
2.1. Climate change observatory in operation	2.1.1. Percentage of communities generating	Reports documenting	0	10	30	Communities' interest

	information on climate change observations	traditional knowledge				
	2.1.2. Percentage of women participating in climate change observations		0	20	50	Women's interest in participating in climate change observations
2.2. Natural resources management plans under implementation	2.2.1. Number of plans approved	Management plans	10	20	50	Communities' interest
2.3. Development and implementation of the management tools of ACAs	2.3.1. Number of tools approved	Tools approved	0	1	3 per ACA	Political will
2.4. Periodic updates of the monitoring management plans of ACAs	2.4.1. Number of monitoring reports	Reports	0	1	4	
2.5. Associations in operation	2.5.1. Number of associations in operation	Register files	13	15	35	Communities' interest
	2.5.2. Percentage of trained women per association	Reports	0%	5%	10%	Women's interest in participating in bio-business and communities' interest in integrate them in steering committees
2.6. EMP	Number of EMPs	EMPs	0	2	7	Communities' interest

Component 3: Resilience built through sustainable bio-businesses in natural resources management areas

3.1. Women take active roles in the bio-businesses	3.1.1. Percentage of women participating in bio-business	Bio-business associations' reports	-	10	10	Women's interest in participating in bio-business and communities' interest in integrate them in steering committees
	3.1.2. Number of indigenous people trained, with increased participation by women (trainings/trained/women)	Associations' meeting minutes; Filed reports	3/26/6	10/50/18	25/200/70	Communities' interest Gender discrimination
3.2. Bio-businesses using solar PV and ESS	3.2.1. Number of bio-businesses using solar energy	Annual reports	0	3	6	In-kind co-financing
3.3. Bio-business initiatives using innovations in production methods and tools	3.3.1. Number of bio-business initiatives with innovated methods or tools	Annual reports	2	2	10	In-kind co-financing
3.4. Commercialization strategies developed	3.4.1. Number of bio-business products exported	Associations' meeting minutes	0	-	2 of 50	Market interest and competitive products
3.5. Certification programs introduced	3.5.1. Number of bio-business producers certified	Certifications	0	-	2 of 50	
3.6. International commercial links in operation	3.6.1. Number of agreements with local/foreign buyers	Signed agreements (local/foreign)	0 / 0	-	35 / 2 of 50	Market interest and competitive products Enhanced technology implemented

Component 4: Science, technology, knowledge management, and monitoring and evaluation systems established						
4.1. Design of technology enhancement for productive bio-businesses	4.1.1. Number of technology enhancements adopted by bio-businesses	Reports	0	1	3	Availability of technological supply
4.2. Hydrological modelling	4.2.1. Number of weather stations	Reports	0	4	4	
	4.2.2. Number of reports	Reports	0	1	2	
4.3. Anthropological, economic and management resource observations systemized	4.4.1. Number of systemization documents	Systemization document	0	1	3	
4.4. Project description and lessons learned prepared	4.5.1. Number of reports	Initial implementation, mid-term and final evaluation reports	0	2	3	
4.5. Communication strategy implemented	4.6.1. Communication strategy	Communication strategy approved	0	1	1	
4.6. Dissemination brochures distributed	4.7.1. Number of brochures issued	Brochures issued	0	7	15	
4.7. Website fully operational	4.8.1. Website	Website	0	1	1	
4.8. Project reports distributed	4.9.1. Number of mid-year reports	Mid-year reports	0	3	5	
	4.9.2. Number of annual reports	Annual reports	0	2	5	
Activities	Description	Inputs			Description	
Component 1: Strengthened institutional capacity in government organizations						
1.1.1. Registration campaigns	Visit communities, communications by radio and print	Logistics, contracts for advertising	Hire of transport vehicles, companies to produce media			
1.1.2. Indigenous registrations	Facilitate registration of individuals	Transport, materials	Hire transport services, facilitate documentation			
1.2.1. Develop POT for the province	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions			
1.2.2. Perform territorial diagnostic at provincial level	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions			
1.3.1. Develop technical study	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services			
1.4.1. Legal analysis and interpretation of transfer of conflict-resolution rights on natural resources to ACAs	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions			
1.4.2. Train staff in the legal powers of ACAs to deal with conflicts over the management of natural resources	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions			
1.5.1. Develop a climate change strategy	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions			
1.5.2. Disseminate a	Visit communities, communicate by	Logistics, contracts	Hire transport vehicles, companies			

climate change strategy at the provincial level	radio and in print	for advertising	to produce media
1.6.1. Consolidate information based on communities' observations	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
1.6.2. Manage, systemize, process and analyze data collected, including weather-station information	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
1.7.1. Facilitate the process to develop the ZEE	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
1.8.1. Facilitate the process to update the strategy	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
1.8.2. Disseminate the strategy at the regional level	Visit communities, communicate by radio and in print	Logistics, contracts for advertising	Hire transport vehicles, companies to produce media
1.9.1. Draft documents with specialized lawyers and experts to develop legislation proposals aimed at regulating natural resources management at the international Ramsar site	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
1.10.1. Compile and share information related to GIS environmental monitoring with National Program Forest Conservation	Hire services to collect information, organize meetings, transport participants, develop reports	Hire staff, transport, logistics	Hire staff to gather data, transport people, pay for workshop logistics

Component 2: Strengthened capacity of community-based institutions			
2.1.1. Provide logistical support and access	Organize systems and services to efficiently manage meetings and workshops	Transport, logistics	Negotiate a contract and organize a system of service suppliers
2.2.1. Organize community-level groups to collect information on indigenous knowledge about climate observations	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
2.2.2. Prepare reports	Develop monthly, quarterly, biannual and yearly reports	Project staff	Produce reports
2.3.1. Conduct inventory and evaluation of natural resources	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.3.2. Develop management plans for natural resources	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.3.3. Management plan approval process	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
2.4.1. Feasibility study of new ACAs	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.4.2. Develop management tools	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.4.3. Organize monitoring and evaluation activities	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
2.5.1. Design	Contract studies and organize meetings	Consultants, logistics,	Contract consultancy firms and

methodologies for the monitoring and evaluation of specific conservation issues		transport	individuals, hire transport services
2.5.2. Produce periodic reports on carbon storage conservation	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.6.1. Training programme on bio-business management	Organize meetings and develop training materials	Transport, logistics, consultants	Bring participants to meetings and provide materials for training
2.6.2. Promote the formation of producers' associations supporting legal incorporation and internal organization	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
2.7.1. Delimit native peoples' geographic areas	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.7.2. Develop economic and ecological zoning study	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.7.3. Develop thematic studies	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
Component 3: Resilience built through sustainable bio-businesses in natural resources management areas			
3.1.1. Technical and financial feasibility study	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
3.1.2. Develop business plan	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
2.1.3. Training (process, management, marketing)	Coordinate meetings and develop training materials	Transport, logistics, consultants	Bring participants to meetings and provide materials for training
3.1.4. Start-up process	Organize meetings with bio-businesses, organize practical training programmes, and provide direct assistance	Transport, logistics, consultants	Visit bio-businesses, organize meetings, organize visits and meetings with buyers/investors
3.1.5. Support implementation	Organize meetings and develop training materials	Transport, logistics, consultants	Bring participants to meetings and provide materials for training
3.2.1. Feasibility studies for the introduction of solar PV and ESS in bio-businesses' activities	Contract studies and organize meetings	Consultants, logistics, transport	Contract consultancy firms and individuals, hire transport services
3.2.2. Purchase and install equipment	Select options for the best technology, conduct a procurement process, purchase and install equipment	Consultants, purchases	Consult, purchase equipment, hire maintenance services
3.2.3. Provide training and support implementation	Coordinate meetings and develop training materials	Transport, logistics, consultants	Bring participants to meetings and provide materials for training
3.3.1. Feasibility studies for the introduction of innovations in methods and tools	Organize meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
3.3.2. Purchase and install equipment	Select options for the best technology, conduct a procurement process, purchase and install equipment	Consultants, purchases	Consult, purchase of equipment, hire maintenance services
3.3.3. Provide training and support implementation	Coordinate meetings and develop training materials	Transport, logistics, consultants	Bring participants to meetings and provide materials for training
3.4.1. Develop a commercialization strategy	Coordinate meetings and develop studies and research	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
3.4.2. Implement commercialization strategy	Organize meetings, visit potential buyers/investors, participate in trade fairs, produce promotion materials	Transport, logistics, travel, printed materials, pictures,	Bring participants to outside markets, hire printers, produce materials, contract services

		event participation	
3.5.1. Perform a certification requirements study for bio-business' products	Coordinate meetings and develop studies	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
3.5.2. Access certification services	Facilitate meetings with certification agencies, conduct training and organize discussions	Transport, logistics, training	Bring participants to meetings and provide materials for discussions
3.5.3. Implement processes and procedures to meet certification requirements	Facilitate meetings with certification agencies, conduct training and organize discussions	Transport, logistics, training	Bring participants to meetings and provide materials for discussions
3.6.1. Access fairs, meetings and markets to establish linkages with potential buyers or investors	Organize meetings, visit potential buyers/investors, participate in trade fairs, produce promotional materials	Transport, logistics, travel, printed materials, pictures, events participation	Bring participants to outside markets, hire printers, produce materials, contract services
3.6.2. Communicate, coordinate visits and provide support to conclude agreements	Coordinate meetings and develop materials	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
Component 4: Science, technology, knowledge management, and monitoring and evaluation systems established			
4.1.1. Conduct studies on technology enhancements on bio-business' processes	Organize meetings and develop studies	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
4.2.1. Conduct studies to produce meteorological and hydrological models for the province	Organize meetings and develop studies	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
4.3.1. Conduct studies to analyse changes in communities due to project activities	Organize meetings and develop studies	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
4.4.1. Conduct studies to compile project activities and extract lessons	Organize meetings and develop studies	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
4.5.1. Develop a communication strategy	Visit communities, communicate by radio and in print	Logistics, contracts for advertising	Hire of transport vehicles, companies to produce media
4.5.2. Implement the strategy	Visit communities, communicate by radio and in print	Logistics, contracts for advertising	Hire of transport vehicles, companies to produce media
4.6.1. Conduct analysis of topics related to climate change, carbon storage and conservation	Organize meetings and develop studies	Transport, logistics, studies	Bring participants to meetings and provide materials for discussions
4.7.1. Develop a website	Hire a local designer, develop information and create a website	Web designer, staff	Collect information, draft texts and produce graphic design
4.7.2. Introduce features in media, blogs and monitor project activities	Hire a local designer, develop information and create a website	Web designer, staff	Collect information, draft texts and produce graphic design
4.8.1. Produce reports	Develop monthly, quarterly, biannual and yearly reports	Project staff	Production of reports

H.2. Arrangements for Monitoring, Reporting and Evaluation

The monitoring plan will be aligned with the logical framework and will be targeted at three levels:

1. Mitigation outcome: Improved management of land or forest areas that contribute to emission reductions
Mitigation outcome: Strengthened institutional and regulatory systems
Mitigation outcome: Financially sustainable bio-businesses in operation
Adaptation outcome: Strengthened institutional and regulatory systems for climate-responsive planning and development
2. Component 1 output: Strengthened institutional capacity in government organizations
Component 2 output: Strengthened capacity of community-based institutions
Component 3 output: resilience built through sustainable bio-businesses in natural resources management areas
Component 4 output: Science, technology, knowledge management, and monitoring and evaluation systems established
3. Activities for Components 1 to 4.

Although the country's strategy for REDD plus is still under construction, the project is clearly linked to the concept of reducing emissions from deforestation and forest degradation, to preserve the stock of carbon in forest ecosystems of PDM. The project will adhere to the national MRV system once it is adopted by MINAM.

No survey was conducted to develop a baseline of the number of males and females and respective income and expenditure level, given the sensitivity that traditional indigenous communities give to this information. Building a trustworthy relationship is required before the communities will accept sharing such socioeconomic data. Data collection efforts will be promoted by the project from year one with the purpose of developing a socioeconomic baseline.

The project PMU will have a dedicated professional who will manage the M&E programme and develop all the reporting mechanisms, using up-to-date information produced by the project. MINAM has agreed to provide detailed satellite data and information regarding vegetation cover, as well as analyses of extreme events. The M&E system will be designed to provide detailed data and analyses that can be used by the PMU to oversee and manage the execution of activities, assess stakeholders' response to these activities, and formulate project modifications to address any problems that may arise.

Over the life cycle of the project, the PMU will report on the implementation of the project's workplan, on indicator data and on proposed changes in activities/design. The project reporting frequency and project level evaluations will be semi-annual, aligned with the requirements set by AMA. The latter will be based on analyses of reasons for differences between expected and actual levels of project activities, counterpart behaviours, and indicator values. The reports will include a 'lessons learned' component that provides input for developing proposed changes in project activities and insights for future activities during the life span of the project. PMU will explicitly link the monitoring plan with lessons learned during the project's activities, especially the innovation pilots. This information will be uploaded in the project-created knowledge management system, which will develop a unified mechanism for identifying lessons from evidence.

During the project post-implementation period, PROFONANPE will ensure that monitoring and reporting to the GCF will continue for five more years. This is possible as due to its long-term commitment in the intervention area and the indigenous communities living therein. A proposed M&E plan for post-project implementation is attached in annex 12.

Methods, tools and techniques

Dynamic implementation—monitoring of project activities

Monitoring of project activities will be achieved through management actions, including monthly briefings with the GCF, weekly staff meetings, and review of staff and adviser inputs to quarterly reports. A system will be established to channel counterpart responses through activity feedback forms, and the findings will be incorporated in recommendations for changes as needed.

Specific issues addressed in these feedback forms will include the quality of technical assistance provided by the project, the quality and timeliness of the implementation data provided by the project, and the recipients' response to project assistance.

Dynamic implementation—monitoring results

Performance monitoring involves two related tasks: (a) analysing realized indicator values; and (b) evaluating the overall results and impacts of the project. Realized (actual) indicator values will be analysed, focusing primarily—but not exclusively—on those indicators whose values differ significantly from proposed levels. The question, “Why the difference?” will be answered, and findings will be incorporated in recommendations for changes in indicator values, specific tasks or expected results.

Specific issues to be addressed include the quality of reported data, such as timing and data classification, operation of the data collection and reporting system, how related tasks were implemented, how recipients responded to assistance as contrasted with expectations, and how closely indicator values are a function of identified tasks.

Progress reporting

The M&E system will provide information regarding project execution; progress towards achieving key targets; and, probability to meet impacts and outcomes. The Project Coordinator will prepare reports for each regular meeting of the PAC. An outside independent third party will conduct the mid-term review and the end-of-project evaluation. The mid-term review and the end-of-project evaluation will be presented by the consultants to the PAC and analysed in detailed with the PMU. Lessons learned will be documented and communicated to the GCF, the GOP and the community of development practitioners. Dissemination of lessons learned will include national and international meetings on REDD and climate change. The GCF will be briefed on a regular basis and as needed.

Monitoring of capacity-building

The project will provide support for capacity-building to increase the sustainability of project investments. During implementation, the project will create various indicators (e.g. number of people trained, number of government offices supported) representative of the progress of building government capabilities, and of communities' and associations' capacity to develop plans to manage natural resources and implement activities for the creation of sustainable livelihoods in order to promote trade, investment and private-sector development.

Monitoring implementation of pilots

The project will conduct various pilot programmes to test innovative technologies that could produce tangible impacts. A number of indicators will be created (e.g. baseline studies for pilot programmes, M&E to ascertain the impact of pilot programmes).

Proposed indicators

The proposed indicators are linked to project objectives and outputs. Indicators were selected based on the scope of each result and the specifics of the activities involved. Each indicator in table H.1 is related to the corresponding desired output. These indicators will be continually reassessed throughout project implementation.

Data collection and reports

Many of the required outputs and results will be available as a result of our direct engagement with counterparts on specific activities such as training events, facilitation workshops and development of consulting services. Accordingly, the project team will be made aware of those indicators relevant to their specific areas and will be tasked with collecting the information to be inputted in the M&E database as events take place. For other indicators, we will work with counterparts to obtain reports, administrative records or other files available on a timely basis.

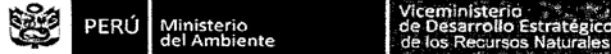


I. Supporting Documents for Funding Proposal

- NDA No-objection Letter
- Feasibility Study
- Integrated Financial Model that provides sensitivity analysis of critical elements (xls format)
- Confirmation letter or letter of commitment for co-financing commitment
- Project/programme confirmation (Term Sheet)
- Environmental and Social Impact Assessment (ESIA) or Environmental and Social Management Plan
- Appraisal Report or Due Diligence Report with recommendations
- Evaluation Report of the baseline project
- Map indicating the location of the project/programme
- Timetable of project/programme implementation

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*

Annex I: National designated authority no-objection letter



"Decenio de las Personas con Discapacidad en el Perú"
"Año de la Diversificación Productiva y del Fortalecimiento de la Educación"

San Isidro, - 4 SEP 2015

Carta N° 183 -2015-MINAM-DVMDERN

To: The Green Climate Fund ("GCF")

Re: Funding proposal for the GCF by Fondo de Promoción de Áreas Naturales Protegidas del Perú (Profonanpe) regarding the project "*Building Resilience of Wetlands of Datem del Marañón Province – Peru*"

Dear Madam, Sir,

We refer to the project "*Building Resilience of Wetlands of Datem del Marañón Province – Peru*" in Peru as included in the funding proposal submitted by Profonanpe to us on August 7.

The undersigned is the Focal Point of Peru.

Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the project "*Building Resilience of Wetlands of Datem del Marañón Province – Peru*" as included in the funding proposal.

By communicating our no-objection, it is implied that:

- (a) The government of Peru has no-objection to the project as included in the funding proposal;
- (b) The project as included in the funding proposal is in conformity with Peru's national priorities, strategies and plans;
- (c) In accordance with the GCF's environmental and social safeguards, the project as included in the funding proposal is in conformity with relevant national laws and regulations.

We also confirm that our national process for ascertaining no-objection to the project as included in the funding proposal has been duly followed.

We acknowledge that this letter will be made publicly available on the GCF website.

Kind regards,



Gabriel Quijandria Acosta
Vice-Minister of Strategic Development of Natural Resources
GCF Focal Point

Annex II: Feasibility study

(See separate document:

Feasibility study: Building the resilience of wetlands in Datem del Marañón – Perú. PROFONANPE. 2015)

Annex III: Letter of Commitment for co-financing – Government of the Republic of Korea

KOICA

KOREA INTERNATIONAL COOPERATION AGENCY

825 Daewangpangyo-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, 461-833, Republic of Korea
Tel 82-31-7400-114 Fax 82-31-7400-655 <http://www.koica.go.kr>

15th September, 2015

Mr. Alberto Paniagua V
Executive Director
Fondo de Promoción de las Áreas Naturales Protegidas del Perú

Concerns: Co-financing of the project "Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru" of PROFONANPE

Dear, Mr. Alberto Paniagua,

I am writing to you to express our interest and commitment to participate in the implementation of the above named project that was proposed to Green Climate Fund(GCF) for funding.

I will take this opportunity to confirm the in-kind and/or in-cash contribution of Korea International Cooperation Agency(KOICA), on behalf of the Government of the Republic of Korea, to co-financing the project, should the proposal get funded. The total amount of our contribution will be USD 1,800,000.

Sincerely yours,



Jong-Hyok Chung
Director General

Socio-Economic Development Department
Korea International Cooperation Agency





Annex IV: Letter of commitment – municipality



San Lorenzo, 14 de Julio del 2015.

OFICIO N° 0460 -2015-MPDM-A.

Señor:

Alberto PANIAGUA VILLAGRA
Director Ejecutivo PROFONANPE

ASUNTO: Propuesta Convenio MPDM – PROFONANPE

Por medio del presente, tengo el grato honor de dirigirme a su digno despacho, a efecto de hacerle llegar un fraternal saludo de parte del pueblo de la Provincia del Datem Marañón, con su Capital Arqueológica, San Lorenzo, y de los Alcaldes Distritales pertenecientes a nuestra Provincia, y a su vez solicitarle la asesoría de Profonanpe a la Municipalidad Provincial Datem del Marañón.

Desarrollar y promover mecanismos apropiados para la generación de información que contribuya científica y tecnológicamente al desarrollo sostenible, creando una plataforma de colaboración interinstitucional para implementar mecanismos e instrumentos de trabajo al cuidado de la riqueza natural y la prevención contra el calentamiento global que está afectando al equilibrio natural a nivel global.

Para ello se ha creído conveniente crear un fondo dentro de nuestras exiguas transferencias como gobierno local de S/. 3,600.00 nuevos soles para el cuidado de las áreas de conservación municipal, para la Creación del albergue familiar con adecuación cultural de pertenencia étnica, en Yachaycuna - Ciudad de San Lorenzo, Distrito de Barranca, Provincia Datem del Marañón - Loreto un aporte municipal del 40% del proyecto ascendente a la suma de S/.173,463.37 nuevos soles y para el Cumplimiento de la Meta 0036 Gestión Integral de Residuos Sólidos un aporte municipal de S/.563,400.00 nuevos soles, cuyo monto proviene de las fuentes de financiamiento FONCOMUN (S/.198,000), RDR (S/.214,800) y CANON (S/.150,000).

Para cualquier efecto relacionado con el presente, señalo domicilio en la Calle Tigr 249- San Lorenzo, al RPM #990-74845; RPC 986151231; RPM #970009652; RPC 984362500 y/o Correo Electrónico jr_chavez_s@hotmail.com

Agradeciéndole de antemano la atención que le brindara al presente, aprovecho la oportunidad para expresarle las muestras de mi especial consideración y estima personal.

Atentamente,

Calle Tigr N° 249 - San Lorenzo - Barranca
Provincia Datem del Marañón - Loreto

[English translation]

San Lorenzo, 14 July 2015

Mister:
Alberto PANIAGUA VILLAGRA
Executive Director PROFONANPE

Subject: Proposal for agreement MPDM – PROFONANPE

I am pleased and honoured to address your office, in order to extend a fraternal greeting on behalf of the people of the Datem Marañón province, with its archeological capital city, San Lorenzo; and the District Mayors that belong to our province, to request the assessment of PROFONANPE for the Provincial Municipality of Datem del Marañón.

Development and promotion of appropriate mechanisms for the generation of information that contributes scientifically and technologically to sustainable development, by creating an inter-institutional collaboration platform to implement work mechanisms and instruments to care for the natural richness and prevent global warming which is affecting the natural balance worldwide.

For this we believe it is convenient to create a fund from our exiguous transferences as a local government, of S/.3,600.00 nuevos soles, for the maintenance of the municipal conservation areas, the creation of a family shelter adequate to cultural ethnic references in Yachaycuna – city of San Lorenzo, district of Barranca, Province of Datem del Marañón – Loreto, a municipal contribution of 40% of the project for a total sum of S/.173,463.37 nuevos soles; for the fulfillment of the objective 0036 in our Solid Waste Integrated Management a contribution of S/.563,400.00 for which the financial resources come from FONCOMUN (S/.198.000), RDR (S/.214,000) and CANON (S/.150,000).

For any matter related to this subject, contact us at Calle Tigre 249 – San Lorenzo; or the RPM #990274845; RPC 986151231; RPM #970009652; RPC 984362500 and/or email <jr_chavez@hotmail.com>.

We appreciate in advance your attention to this matter, and we take this opportunity to show you our special consideration and personal esteem.

Sincerely,

Annex V: Letter of commitment– Meteorological and Hydrological National Service of Peru



[English translation]

15 July 2015, Lima

LETTER N° 482 SENAMHI/PREJ-2015

Mr.
ALBERTO PANIAGUA V.
Executive Director
PROFONANPE
Av. J. Prado Oeste 2378
San Isidro.-

I have the pleasure to address you to express my regards and SENAMHI's interest in participating in the project "Conservation and sustainable use of wetlands in the province Datem del Marañón", in order to contribute to the implementation of the hydrometeorological network in the project's area.

With the aim of performing studies and investigations, as well as to cooperate in the operational and maintenance activities, SENAMHI offers as counterpart the amount of S/. 105,000.00 on an annual basis.

With this in mind, the Executive Presidency, would appreciate if you submitted our proposal and we hope that it is welcome.

I take this opportunity to express my regards for your special consideration.

Sincerely,

Eng. **AMELIA DÍAZ PABLÓ**
Executive President of SENAMHI

Annex VI: Letter of commitment – Centre for International Forestry Research



Center for International Forestry Research

c/o Centro Internacional de la Papa (CIP), Av. La Molina 1805, La Molina | Apartado Postal 1556 La Molina, Lima 12, Perú
Tel +51: (1) 317 5357, Fax: +51 (1) 317 5326, e-mail: cifor-latinoamerica@cgiar.org
cifor.org | blog.cifor.org

Mr. Alberto Paniagua
Executive Director
Fondo de Promoción de las Áreas Naturales Protegidas del Perú
Lima

15 July, 2015

Dear Mr. Paniagua,

We have read with interest the proposal for the Green Climate Fund entitled "Building Resilience of Wetlands in Datem del Marañón Province-Perú".

The project proposal is in full line with CIFOR's research and associated research capacity on sustainable forest management for multiple goods and services, including enhancement of carbon sinks. Should the proposal get funded, CIFOR is prepared for getting involved scientifically and also willing to co-finance with up to USD 316,412.

Sincerely,



Manuel R. Guariguata, Ph.D.
Principal Scientist
Team Leader



A member of the CGIAR Consortium

Annex VII Potential beneficiaries of the project¹⁴

Indigenous communities	Population	Ethnic group	Legal title	Land with titles (ha)
Huitoyacu:	1 851			
1 Puerto Pijuayal	144	KANDOZI	029-92	18 000.0
2 Nuevo Ucayali	85	KANDOZI		
3 Nuevo Progreso	106	KANDOZI		
4 Hortensia Cocha	187	KANDOZI	505	54 438.2
5 San Fernando	105	KANDOZI		
6 CHINTU	162	ACHUAR		
7 CHUINTAR	254	ACHUAR	023-92	6 859.9
8 CHURUS	135	ACHUAR		
9 WAWAIN	115	ACHUAR		
10 Wisum	166	ACHUAR	021-92	6 317.4
11 Pankintsa	191	ACHUAR	025-92	18 870.5
12 Nayunentsa	71	ACHUAR		
13 Waknir	130	ACHUAR		
14 Wijint	324	ACHUAR	015-91	15 619.5
15 Kuyunsa	370	ACHUAR	017-92	49 940.0
Huasaga/Pastaza	2 262			
16 Cocha Purahua (sangre de grado)	185	ACHUAR	002-92	9 037.8
17 Unión Antonieta (sangre de grado)	130	ACHUAR	015-92	4 981.2
18 Achuar Anatico	174	QUECHUA	014-92	4 418.9
19 Bolognesi (cocha y río)	159	QUECHUA	CN-031-77	8 471.0
20 Sungache (cocha y río)	248	QUECHUA	504	23 145.4
21 Loboyacu (río)	298	QUECHUA	503	35 914.5
22 Santa María (río)	272	QUECHUA		
23 Kushilia (río)	80	KANDOZI	441	8 272.0
24 Nueva Esperanza (río)	80	QUECHUA		
25 Soplín	205	QUECHUA	CN-016-91	3 238.5
26 WAYUSENTSA	131	Achuar		
27 SAN JUAN DE MANCHARI	300	Achuar		
Morona	1 415			
28 Shoroya Nueva	128	Chapra	CN-006-77	21 415.0
29 Naranjal	93	Chapra		

¹⁴ Indigenous peoples are understood as peoples whose ancestors were in territories that were conquered, and have preserved cultural institutions and their own identity. In Peru, the State has recognized the rights of 54 indigenous or native peoples, including the 7 ethnic groups of this project, see <http://bdpi.cultura.gob.pe/introduccion>. To date there is no information on the composition of men and women in indigenous peoples.

30	Puerto Pijuayal	257	Chapra		
31	Unanchay	98	Chapra		
32	Caballito	138	WAMPIS		
33	Numpankit	60	WAMPIS	747	3 746.3
34	Consuelo	148	WAMPIS		
35	Inca Roca	378	WAMPIS	CN-002-77	10 960.0
36	Union Indigena	17	Chapra		
37	Bellavista	33	Chapra		
38	Panguanita	65	Chapra		
39	Musa Candashi	53	Awajún		
Lago Rimachi:		1 684			
40	Charapa Cocha	50	KANDOZI		
41	Puerto Barranquito	179	KANDOZI		
42	San Ramón	48	KANDOZI		
43	Kaspa Cocha	90	KANDOZI		
44	Nueva Yarina	173	KANDOZI	021-91	37 935.0
45	Puerto Chuinda	50	KANDOZI		
46	Puerto Angara	100	KANDOZI		
47	Nueva Unión	156	KANDOZI		
48	Puerto Pirumba	137	KANDOZI		
49	Musa Karusha	50	KANDOZI		
50	Puerto Requena	166	KANDOZI	054-84	5 744.2
51	Nuevo Chingana	56	KANDOZI		
52	Puerto Chingana	102	KANDOZI	003-85	6 335.1
53	Puerto Wichi	66	KANDOZI		
54	Puerto Matiwa	48	KANDOZI		
55	Puerto Baschiri	45	KANDOZI		
56	Puerto Tangama	80	KANDOZI		
57	Puerto Ungurahui	88	KANDOZI		
ACA Humedales Bajo Marañón/Pastaza		5 408			
58	Linchis	103	MESTIZO		
59	Santa Rosa	98	MESTIZO		
60	Nueva Islandia	52	MESTIZO		
61	San Juan de Mojarayacu	260	MESTIZO		
62	San Antonio	753	MESTIZO		
63	Puerto Industrial	791	MESTIZO		
64	Porvenir	353	MESTIZO		
65	Palpa	69	MESTIZO		
66	Papayacu	286	MESTIZO		
67	San Isidro	264	MESTIZO		

68	Ungumayo	298	MESTIZO		
69	Libertad	349	MESTIZO		
70	Los Ángeles	185	MESTIZO		
71	Indio del Perú	88	MESTIZO		
72	Santa Ana	380	MESTIZO		
73	Nueva Unión	81	MESTIZO		
74	La Curva	98	MESTIZO		
75	Recreo	258	MESTIZO		
76	Puerto Díaz	96	MESTIZO		
77	Campo Verde	156	QUECHUA		
78	Trueno Cocha	315	QUECHUA		
79	Nuevo Ungurahui	75	MESTIZO		
ACA Bajo Morona/Alto Marañón		2 443			
80	Atlantida	139	Mestizo		
81	Vencedor	70	Mestizo		
82	Alfonso Ugarte	80	Mestizo		
83	Copales Unidos	71	Mestizo		
84	Limón	100	Mestizo		
85	Puerto Elisa	75	Mestizo		
86	Acapulco	80	Mestizo		
87	Luz del Oriente	53	Mestizo		
88	Puerto Libre	56	Mestizo		
89	Dos Hermanos	40	Mestizo		
90	Nuevo Milagro	65	Mestizo		
91	Mayuriaga	360	Wampis	038-93	14 015.6
9293	Paragua Viejo	511	Mestizo		
94	Paragua Nuevo	120	Mestizo		
95	Puerto Alegria	490	Mestizo		
96	Santa Rosa	77	Mestizo		
97	Tierra Blanca	56	Mestizo		
98	Chapís	323	Awajún	043-83	7 350.0
99	Nueva Alegría	106	Awajún		
100	Capernaúm	62	Awajún		
101	Ájachim	256	Awajún		
102	WEE	200	Mestizo	769	9 126.8
Cahuapanas		3 971			
103	BARRANQUITA	250	Shawí	448	15 781.0
104	BUENOS AIRES	142	Shawí		
105	INCHIYACU	165	Shawí		
106	STA MARIA DE C	705	Shawí	028-80	5 355.0
107	STA MARTHA	283	Awajún	018-80	5 245.0



108	NVO MILAGRO	112	Awajún		
109	ZAPOTE	235	Shawí		
110	PALMICHE	542	Shawí	CN-04-79	15 781.0
111	CHACATAN	305	Shawí		
112	KAUPAN	653	Awajún	743	8 781.9
113	PONGO	180	Awajún		
114	KAWIT	239	Awajún		
115	JOSE OLAYA	160	Awajún		
Marañón/Manseriche		1 379			
116	Pijuayal	187	Awajún		
117	Sachapapa	733	Awajún		
118	Atahualpa	459	Awajún	CN-141-75	57 460.0
119	Sinchi Roca	175	Awajún	529	28 983.2
120	Nuevo Jerusalem	205	Awajún		
TOTAL		20 413			521 539.7

Annex VIII. Environmental impact assessment summary

(The full assessment can be found as a separate document in Spanish)

This project is focused on promoting participatory bio-business initiatives by indigenous communities, based on sustainable management plans of the natural resources in their territories. It will also support the consolidation of the proper zoning and territorial management of the Province of Datem del Marañón (Loreto Region), which provides the legal and technical framework.

The purpose of the environmental assessment of this proposal is to ensure that the project pays due consideration to environmental aspects by preventing, eliminating or minimizing potential environmental damage due to project activities. On the other hand, the assessment also identifies opportunities to maximize the potential positive impacts. The environmental safeguards are also tools and means by which communities may safeguard their indigenous rights by expressing their views and asking for modifications or improvements so their rights are not affected.

The methodology used is based on guidelines established by PROFONANPE and the Green Climate Fund for the application of performance standards (PSs), which are also those used by the International Financial Corporation (IFC). Of the eight PSs considered by IFC, the following four are most relevant to the project in terms of the environment:

- PS1: Assessment and management of environmental and social risks and impacts;
- PS3: Resource efficiency and pollution prevention;
- PS6: Biodiversity conservation and sustainable management of living natural resources; and
- PS7: Indigenous peoples.

PS4: Community health, safety and security is partly applied to promote safety and health safeguards to project activities. In addition, PS8: Cultural heritage is applied to avoid any harm to ancient ceramic art found within Achuar communities and other ethnic groups.

The impacts were characterized to identify their positive or negative potential effects on the following environmental elements: water, soil, air, aquatic fauna, terrestrial fauna and forests/*aguajales* (*palm swamp forest*). The risks and magnitude of the negative impacts were quantified so that the final environmental risk could be classified as significant, moderate or minor/non-significant.

The evaluation results were grouped by project component and are shown as follows:

Component 1. Strengthening institutional capacity in government organizations

The activities under this component are focused on providing training, technical assistance and coordination support so that the official institutions and authorities can provide their mandated services and support at the district, provincial, regional and national levels, according to national government structure and legislation. These services are related to the promotion of conservation units, preparation and dissemination of information, institutional strengthening and citizenship building, territorial zoning, and coordination between sectors and government levels, in order to achieve the effective and sustainable use of the province's natural resources. In that sense, these indirect impacts are all of a positive nature.

However, the project's direct impacts are basically linked to the increased motor boat traffic on the rivers and lakes (*cochas*) of the province as well as the potential accumulation of solid waste in soil and water due to the increased number of local visits, meetings, workshops and training activities promoted by the project. The increased use of fuel by motor boats may affect water quality and aquatic fauna, and may produce more greenhouse gas emissions.

The magnitude of the environmental risks is evaluated as minor/non-significant. The proposed mitigation measures are as follows:

- a) Plan the visits, meetings, workshops and training activities in advance in order to minimize the distance travelled by motor boats used by communities, and government or project personnel; and
- b) In conjunction with communities and municipal governments, promote activities to strengthen public awareness of the potential impacts of disposing of solid waste, particularly plastics and used batteries, in soil and water. Activities should include the promotion of best practices to properly dispose of solid waste, especially that which is non-biodegradable.

Component 2. Strengthening capacity of community-based institutions

Component 2 is focused on working directly with communities and their institutions, such as production associations, environmental monitoring committees (from the environmental conservation areas) and indigenous federations. As in Component 1, this component is geared towards strengthening indigenous institutionalism by facilitating relevant technical and legal information, training and technical assistance for those tasks within community responsibility that provide sustainability to project activities. These tasks include the promotion of good practices in organization and natural resources management, accountability, the establishment of community land boundaries, providing technical assistance to bio-businesses and their respective management plans, and the creation or strengthening of knowledge-sharing opportunities, among other activities. Through these actions, institutions will be strengthened, as will the sustainability of natural resources management. The indirect impacts on the province's natural resources will be positive.

The project's operational actions will depend largely on coordination among project personnel, community institutions and government officials. Constant visits, meetings, workshops, studies and training activities will be involved during the life span of the project, and will require numerous trips within the province in motor boats that use fossil fuels and emit carbon dioxide. Many of the meetings will involve taking packaged food and beverages for attendees. These packages are usually disposed of in the environment and pollute soil and water.

Similar to Component 1, the impacts are qualified as minor/non-significant, according to the methodology followed, and should be minimized by applying the following mitigation measures:

- a) Plan the visits, meetings, workshops and training activities in advance in order to minimize the distance travelled by motor boats used by communities, and government or project personnel; and
- b) In conjunction with communities and municipal governments, promote activities to strengthen public awareness of the potential impacts of disposing of solid waste, particularly plastics and used batteries, in soil and water. Activities should include the promotion of best practices to properly dispose of solid waste, especially that which is non-biodegradable.

Component 3. Resilience built through sustainable bio-businesses in natural resources management areas

This component promotes bio-businesses through the sustainable use of locally managed natural resources and according to community choices and opportunities. Emphasis is placed on the sustainable use of natural resources and subsequent income generation through processing, value adding and marketing. Component 3 represents the economic development of the project.

Bio-business choices are diverse, some of which are already in operation since they started during the previous phase of the project. New ideas are being considered by communities, such as ice-making, and production of oil and pulp from *aguaje* and other palm trees, fresh and processed fish, *sangre de grado* (dragon's blood) latex, managed wildlife meat, ancient medicines (herbs and clay), and handicrafts using seeds, sawn timber, etc.

When the products are to be sold, an officially approved management plan is required. This ensures the sustainability of the natural resource base. Conservation through sustainable use results in a highly positive impact on the environment, particularly on the aquatic and terrestrial fauna that are under anthropic pressure in the rivers, *cochas*, *aguajales* and forests.

The promotion of new associations and the increased economic drive generated by the bio-businesses will have a direct influence on motor boat traffic, causing negative impacts, albeit minor, on water and air. Moreover, more meetings, training activities and income may result in the increased consumption of goods and consequently the corresponding solid waste produced, causing localized impacts on soil or water.

On the other hand, some of the bio-businesses, such as ice-making, palm oil production and sawmilling, require externally generated energy from fossil fuels. Pollution of soil, water and air is a risk—evaluated as minor—which can be minimized. The following mitigating measures are being proposed for Component 3:

- a) Regarding the generation of energy for processing (bio-businesses), coordinate with local authorities to partially use the public energy already being produced in order to connect to the town grid when possible;
- b) Analyse the possibility of partially replacing fossil fuel produced energy for bio-businesses with renewable energy sources;
- c) Carry out regular maintenance of energy generators and avoid contamination of the liquid or solid waste produced;
- d) Strictly monitor management plans for the sustainable use of natural resources;
- e) Plan the visits, meetings, workshops and training activities in advance in order to minimize the distance travelled by motor boats used by communities, and government or project personnel; and
- f) In conjunction with communities and municipal governments, promote activities to strengthen public awareness of the potential impacts of disposing of solid waste, particularly plastics and used batteries, in soil and water. Activities should include the promotion of best practices to properly dispose of solid waste, especially that which is non-biodegradable.

Component 4. Science, technology, knowledge management, and monitoring and evaluation systems established

The generation of knowledge and innovation is the essence of this component. The studies to be carried out will estimate the carbon sequestered and stored in *aguajales* and describe its hydrological cycle and ecology. In addition, innovation to improve efficiency in transportation and bio-businesses will be promoted. Efforts will be made to systematically learn from the project lessons and to establish a communications strategy. The environmental impacts of this component are positive. These direct operational activities have minor or non-significant effects.

In summary, the negative potential impacts, albeit minor, should be mitigated as follows:

Activities related to	Risks	Potential Impact	Main mitigation measures
Institutional strengthening	Increased motor boat traffic and solid waste	- Mortality of aquatic life	- Plan trips efficiently to reduce motor boat traffic
Promotion of bio-businesses	Increased motor boat traffic and solid waste	- Contamination of soil, water and air	- Solid waste disposal campaigns
	Unsustainable harvesting of natural resources	- Depletion of natural resources	- Strict monitoring of management plans
	Use of fossil fuels to generate energy for processing	- Contamination of soil, water and air	- Use available town energy, when possible, and examine the possibility of using renewable energy

In terms of environmental safeguards, the performance standards applied are summarized as follows, taking into consideration that PS1, PS3, PS6 and PS7 are those most directly related to the project's core business.

PS1: Assessment and management of environmental and social risks and impacts. The project will not generate significantly negative environmental impacts. Instead, institutional strengthening of government and community institutions, coupled with management plans for the sustainable use of natural resources for income-generating bio-businesses, will contribute to the proper care of the natural resource base in the province. The risk of negative impacts is minor or not significant and can be mitigated. These risks are related to increased pollution due to motor boat traffic, solid-waste production in meetings and workshops, and use of fossil fuels to generate energy for adding value to bio-business production. Mitigation measures have been designed.

PS3: Resource efficiency and pollution prevention. The project will not generate any significant pollution or greenhouse gas emissions. In addition, to avoid soil contamination and emissions from the processing plants used for biodiversity product transformation, alternative energy generation based on renewable resources will be attempted. Innovation in bio-businesses will be promoted to ensure the processing efficiency of sustainably harvested products.

PS4: Community health, safety and security. The project will ensure that health and safety conditions will apply to communities and personnel working on project activities: for example, using life jackets on motor boat trips. Furthermore, the project will ensure that all sanitary and safety regulations demanded by the relevant offices issuing authorizations—fisheries, forestry, processing plants—are complied with. A registry of incidents and accidents will be kept so that corrective measures can be applied.

PS6: Biodiversity conservation and sustainable management of living natural resources. The project will contribute to protecting and conserving Amazonian biodiversity and ecosystem services by applying community management plans to large areas of wetlands. Income generation based on sustainably managing and adding value to local natural resources will provide additional reasons for communities and government agencies that care for and oversee the resource base.

PS7. Indigenous populations. The project will ensure full respect for indigenous peoples. It is to be implemented in indigenous territories where activities could only be carried out with prior informed consent, which has been gained at this stage. If the project is approved, a new round of consultation is anticipated for work planning. The project will avoid or minimize any adverse environmental impacts due to increased motor boat traffic or solid-waste production at meetings. Moreover, the project will only support activities in which the communities themselves are committed to work.

PS8. Cultural heritage. The project will fully respect the cultural heritage of the indigenous populations. Archaeological remains in the area have not yet been legally recognized by the national authority. The project will take steps to prevent these remains from being damaged and will promote their conservation. Part of the project is located within the Ramsar site at the Abanico del Pastaza Wetland Complex, which could be considered a natural heritage site since it will also contribute to the protection of this wetland of international importance.

Annex IX: Social impact assessment summary

(The full assessment can be found in a separate document.)

The purpose of the social assessment of this proposal is to ensure that the project pays due consideration to social aspects by avoiding, preventing, eliminating or minimizing potential adverse social impacts and risks due to project activities.

The assessment also identifies opportunities to maximize the potential positive impacts. The social safeguards are powerful tools by which communities, during the design of the project, may safeguard their indigenous rights by expressing their views and asking for modifications or improvements so their rights are not affected.

The methodology used is based on: (a) consultations held between 23 June and 1 July 2015 with more than 80 communities represented by nearly 500 people (men and women) and 21 organizations (including federations, associations and committees); and (b) guidelines established by PROFONANPE and the Green Climate Fund for the application of performance standards (PSs) that are also those used by the International Financial Corporation (IFC). Of the eight PSs considered by IFC, the following five are most relevant to the project:

- PS1: Assessment and management of environmental and social risks and impacts;
- PS2. Labour and working conditions;
- PS5. Land acquisition and involuntary resettlement;
- PS7. Indigenous peoples; and
- PS8. Cultural heritage.

Moreover, the social assessment identifies the opportunities to incorporate a gender approach in the project, respecting indigenous communities' organizations and their traditional culture.

1) PS1: Assessment and management of environmental and social risks and impacts.

a) Impacts and social risks identification

Various minor social impacts and risks have been identified. These are associated mainly with activities in Components 2 and 3. Prevention measures are proposed in order to prevent their occurrence (table 1).

In case unforeseen impacts or risks arise during project implementation, specific measures will be established to prevent, correct and/or mitigate them. These must be included in the PROFONANPE Environmental and Social Management System.

b) Engagement with stakeholders, communications and grievance mechanism

Consensus will be the preferred method in the negotiation of complaints and local demands. In particular, the project will expand the participatory monitoring process to include a space to gather suggestions, questions and complaints directly from the community (in contrast to the formal process through which the community leader provides feedback to project managers). All suggestions, questions and complaints will be documented, analysed and provided with a formal answer.

Furthermore, the PROFONANPE website will maintain an online format through which users can make suggestions, ask questions, request information and file complaints. This format is sent to the Administration and Finance Director and the Development and Supervision Director, who have the responsibility to reply where applicable. Project stakeholders will be informed of this procedure. It should

also be mentioned that the PROFONANPE Directorate of Development and Supervision will be in charge of implementing the environmental and social risk management system.

Table 1. Social impacts and risk identification and prevention/mitigation measures

Component/ related activities	Analysis	Negative impact/risk	Prevention/mitigation measure
Component 1. Strengthened institutional capacity in government organizations	Activities considered in this component generate positive impacts because they are aimed at strengthening national and subnational government capacities (for sustainable land management). The official registration of indigenous people through the issuance of national identity documents will formally enable them to sustainably manage and commercialize natural resources, and to access other benefits provided by the State, such as health and education	None	None
Component 2. Strengthening capacity of community-based institutions	Activities considered in this component generate positive impacts because they are aimed at strengthening the capacity of indigenous people for land management and sustainable use of natural resources with the support of the corresponding authority. In addition to responding to the indigenous communities' demands, titling of lands will give them legal security and access to larger spaces for the management of natural resources, thereby fostering elements of a culture of peace and rule of law. Nevertheless, the participatory formulation and implementation of territorial and natural resources management plans to some extent could generate the exclusion of minorities by failing to take their opinions into account. Therefore, prevention measures should be implemented in order to avoid social conflicts	Exclusion of minorities	Create opportunities and mechanisms to promote dialogue and conflict resolution in order to respect the rights of minorities
Component 3. Building resilience through sustainable bio-businesses	Currently, the distribution of economic resources from bio-businesses is undertaken in the community since indigenous federations appoint managers of producers' associations.	Unexpected changes in community organization	Avoid the concentration of power and money by: (a) implementing mechanisms for the accountability of producers' associations to

Component/ related activities	Analysis	Negative impact/risk	Prevention/mitigation measure
	<p>Moreover, they operate as intermediaries in the purchase and sale of managed products. Therefore, each family within the community benefits. However, it should not rule out the possibility that further economic growth could lead to differences in status among families, changing the community organization. This could also undermine their self-esteem and cultural identity. Moreover, it could generate a gap between men and women if the income is mainly handled by the former</p>		<p>their communities; (b) delivering a semi-annual report to the project on the use of resources; and (c) training community members in good practices for money use</p> <p>Build self-esteem and cultural identity of indigenous communities</p> <p>Create spaces for women's participation in bio-businesses</p> <p>Empower women in the logic of economic development</p> <p>Promote the sharing of experiences of women from target groups with other women leaders</p> <p>Consider in the project team a professional sociologist or anthropologist who will be in charge of observing and evaluating any change in the social dynamics of indigenous communities that could constitute a risk to the population</p>
<p>Component 4. Science, technology and knowledge management</p>	<p>Assessments and research on carbon stocks and impacts of climate change in the region are of high social impact since consistent measures of mitigation and adaptation to the local context can only be implemented with the right knowledge. Furthermore, technological innovation is highly important not only for the impact it may</p>	<p>None</p>	<p>None</p>
		<p>Occurrence of work accidents</p>	<p>Establish guidelines and mechanisms for the safety of people in bio-businesses as well the project team</p>

Component/ related activities	Analysis	Negative impact/risk	Prevention/mitigation measure
	have on the implementation of clean, environmentally friendly energy systems, but also for its importance and potential replicability. However, to enhance these actions, monitoring and evaluation of indigenous peoples' adaptation to these new technologies are recommended		

2) PS2. Labour and working conditions

PROFONANPE has high standards when hiring staff and rigorously applies all of Peru's legal guidelines, in addition to standards set by international cooperation agencies. All staff recruitment takes place in a competitive and transparent manner, without discrimination, and is particularly respectful of the local sensitivities where it works.

The project does not involve the permanent recruitment of indigenous staff. It seeks to empower communities to implement the actions identified as a result of the enactment of the land-use plan and natural resources management plans. This does not exclude the fact that, among consultants and technical staff, the project may give preference to those who are from the region and are of indigenous origin.

The project will not promote or force child labour. (In indigenous communities, underage children are traditionally involved in productive activities as apprentices and perform tasks suited to their abilities under adult supervision.)

3) PS5. Land acquisition and involuntary resettlement

The project will not generate the displacement of indigenous communities. Instead, it will strengthen legal security by promoting land titling and land-use planning.

The project seeks the sustainable use of, and unrestricted access to, natural resources in the province, without discriminating between indigenous and non-indigenous peoples. There is a possibility that non-indigenous peoples and persons from outside the territory may inhabit the same territory as project beneficiaries. In such cases, the project will develop a policy of intercultural interaction as is currently being implemented in the environmental conservation areas.

The project will promote alternative activities through the development of bio-businesses, such as the commercialization of dried, salted and frozen fish, and *aguaje* harvesting (without cutting down palm trees) and its transformation into pulp, flour and oils.

4) PS7. Indigenous peoples

The project's design includes a process for the free and informed consent of indigenous peoples, as a result of which the social licensing of the project was obtained. This process included an intercultural approach and was gender sensitive.

The project will develop a process of information and permanent dialogue with indigenous peoples, so that all decisions regarding the project will be made with consensus as the preferred method.

The project will develop guidelines for social safeguards implementation, including indigenous land acquisition and involuntary resettlement. All actors involved in the project will be trained in their use so that all can apply the safeguards. Finally, the project includes a strong tracking component to periodically report on its implementation.

5) PS8. Cultural heritage

The project will not affect the values of physical and cultural heritage. Instead, the proposal will help facilitate the management of the physical environment by respecting the culture of the population.

Gender

Based on cultural aspects, members of indigenous families have well-defined roles. Men are responsible for hunting, fishing and forest resource gathering, while women are in charge of food preparation and childcare. The work in the farm (*chacra*), where yuca (*Manihot esculenta*) is the principal product, is an activity performed by both men and women.

Although it is true that extractive activities are mainly carried out by men, the activities of processing and wetland conservation will incorporate women. According to the Pastaza Morona–first stage project's experience regarding bio-business implementation, women were included in the productive transformation and preservation process (salting dried fish) and in the production of handicrafts and ceramics. Taking into account this experience, the project will create spaces for the gradual participation of women in bio-businesses and will train them in issues of economic development. Furthermore, it will promote the sharing of experiences with women leaders of other indigenous groups and respect their traditional customs. However, care must be taken not to contravene the culture of women's participation, leading to gradual and negotiated incorporation without overloading their occupations, which would mean an increased workload and potential conflicts in their homes.

Currently, most women of the seven ethnic groups only speak in their native languages. In that sense, the project will be respectful of their culture and will seek to achieve gradual participation of women in community meetings and will enable the conduct of meetings in each population's language.

Annex X: Maps indicating the project location

Figure 10.1. Map of Datem del Maraón Province



Figure 10.2. Political Map of Datem del Maraón

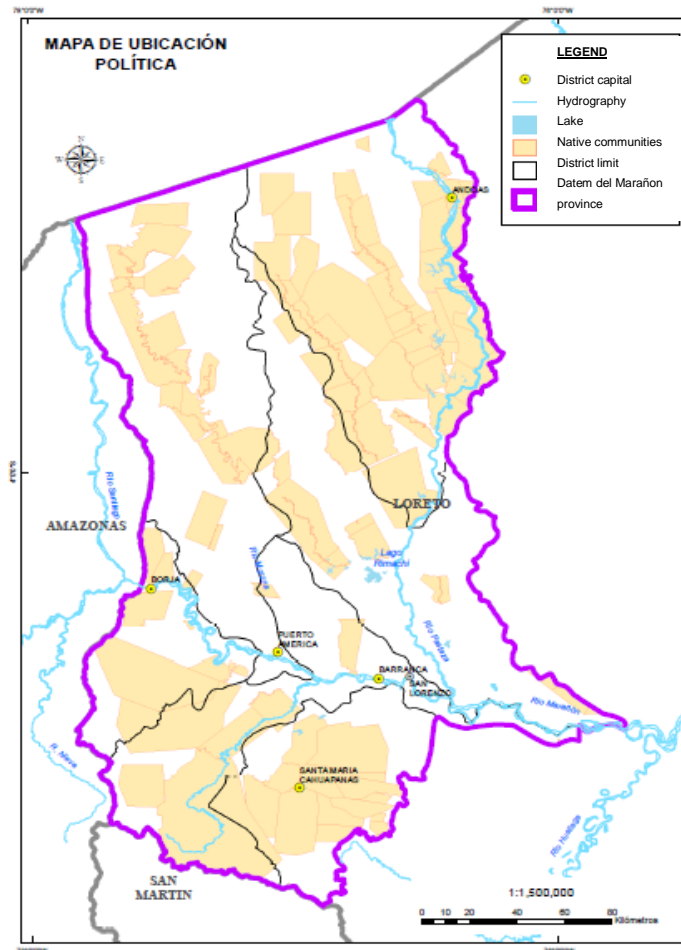


Figure 10.3. Map of wetlands in Datem del Marañón

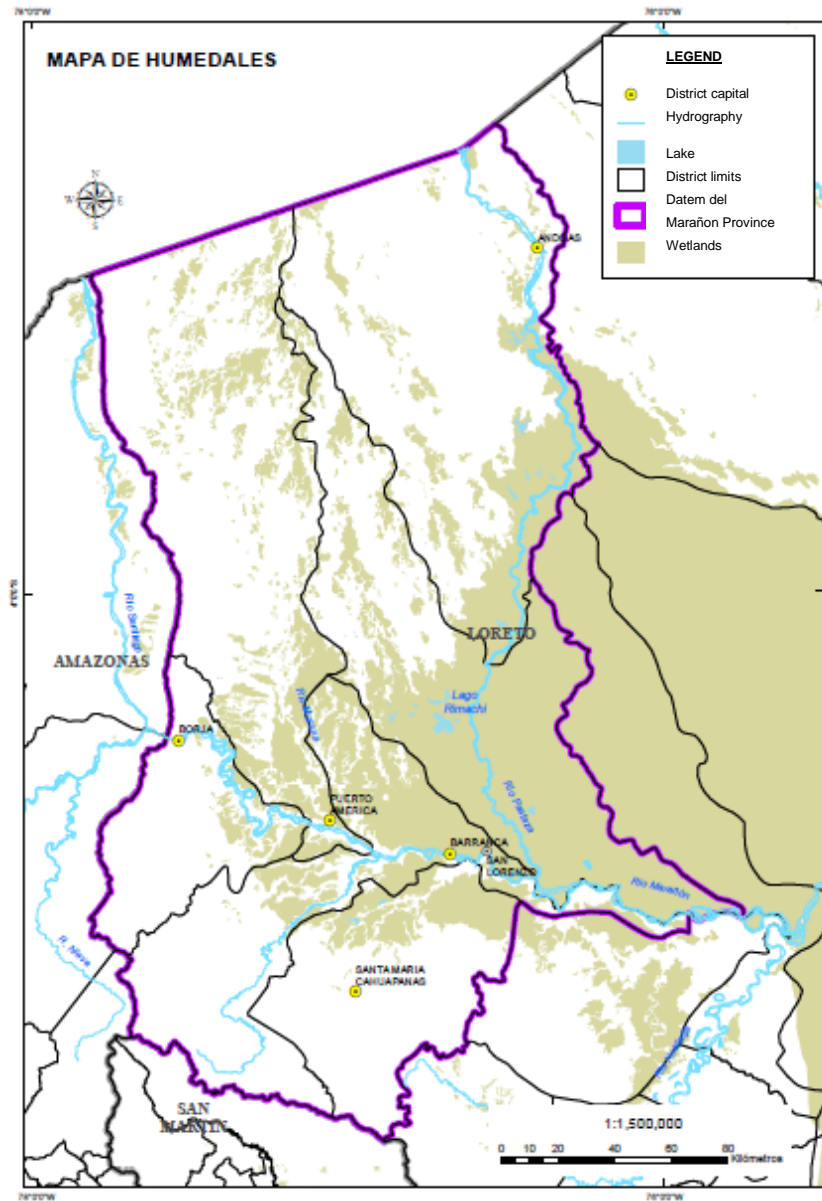


Figure 10.4. Map of the deforestation rate in Datem del Marañón

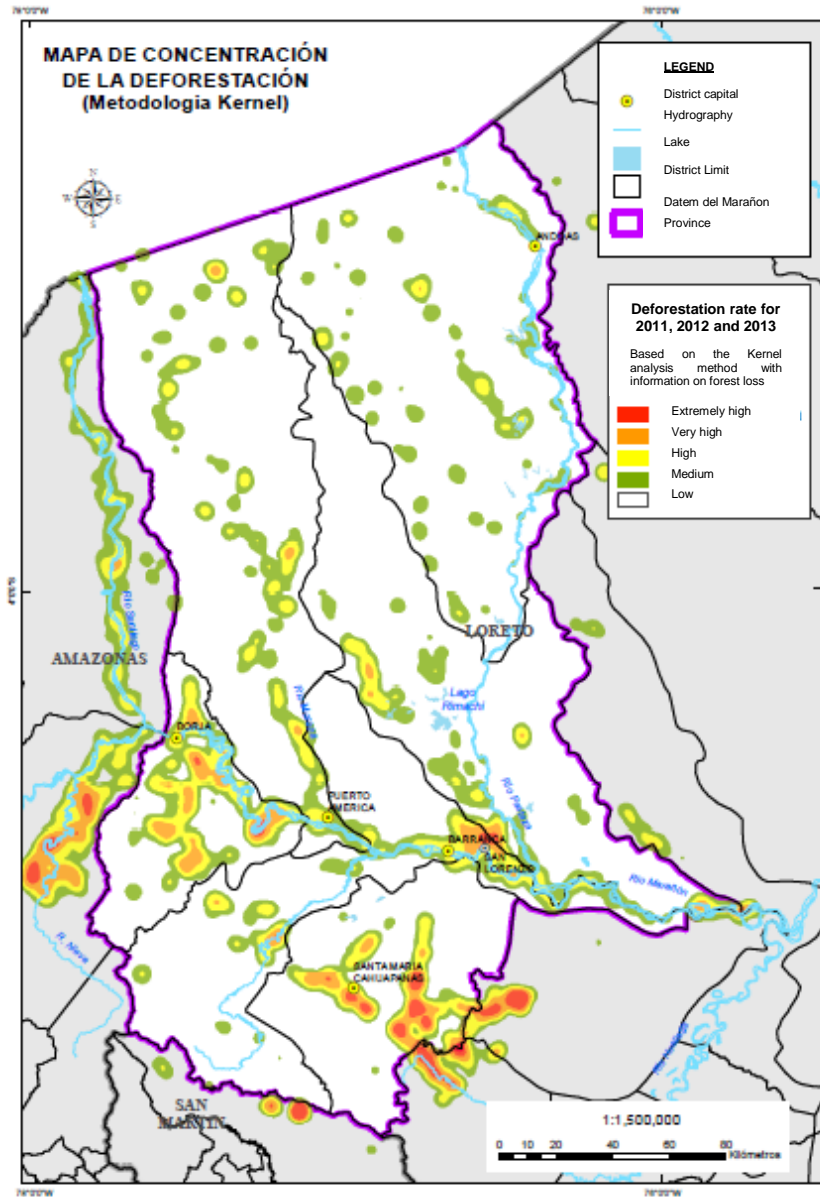
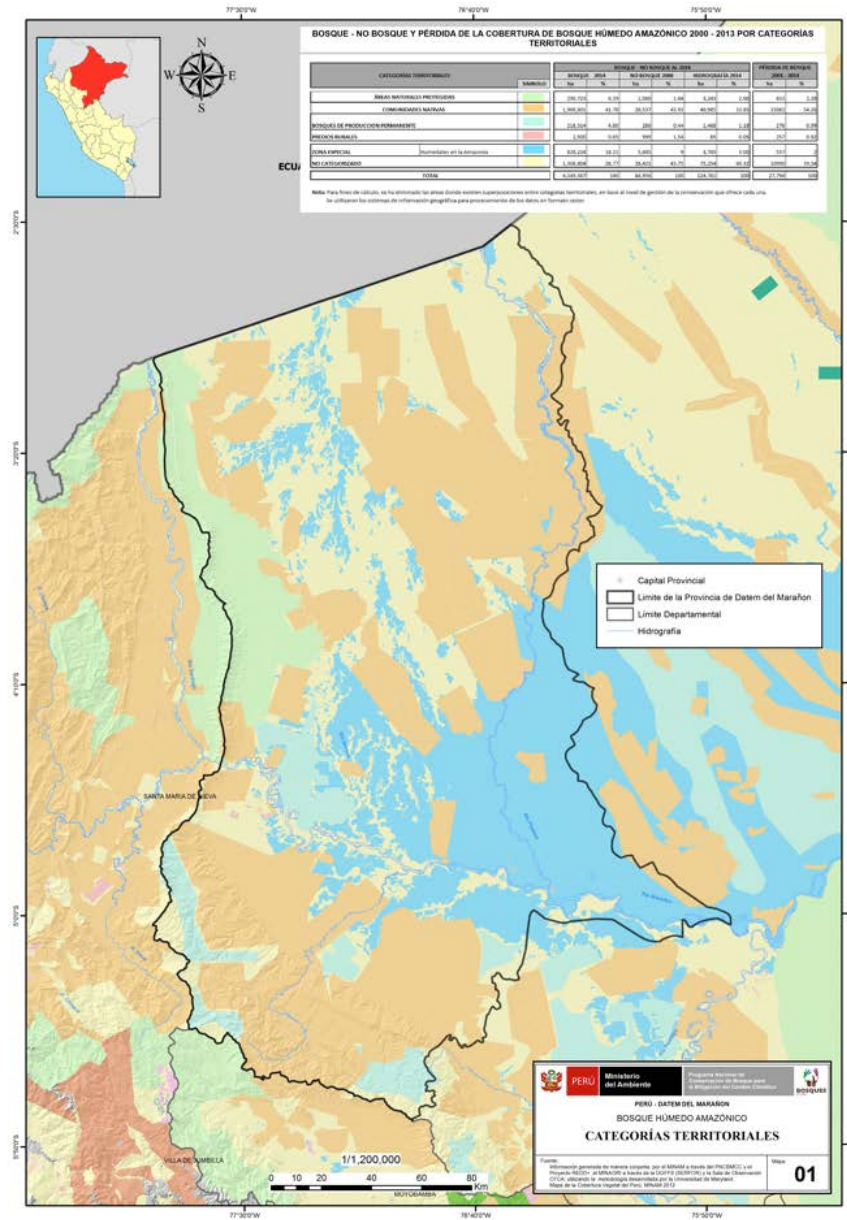


Figure 10.5. Map of land tenure categorization in Datem del Marañón



Annex XI: Project sustainability: an innovative response by PROFONANPE

A recurring question emerges from almost all projects funded mainly by international sources, no matter if they deal with conservation, sustainable development, climate change or infrastructure: how sustainable are post-project activities? In fact, there is little empirical evidence based on appropriate indicators that objectively demonstrates the degree of sustainability after a project has come to the end of its life span. Partly because: (a) there are very few ex-post evaluations five years after the closing periods;(bi) in certain cases there are insufficient provisions to ensure the future sustainability of actions; (c) the design of certain works are poorly adjusted to the real needs of beneficiaries; (d) very few financial resources are allocated by governments and/or donors for such assessments; and (e) the continuous changes in government staff tend to erode the memory of commitments given. Some of these causes by themselves, or a combination of them, may, in fact, explain the recurring question.

PROFONANPE has almost 23 years of experience in funding projects from bilateral, multilateral, corporate and international foundation sources; and two decades facing the same question. However, its institutional design has enabled it to implement a unique arrangement, not yet practised in most developing countries: the allocation of trust funds. These can be of two types: sinking funds and endowment funds. The first is fully disbursed during the project life span and the second is a capital invested in the stock market the annual returns on which are used for project funding. The resulting capital is granted to PROFONANPE in perpetuity.

Thanks to the trust fund mechanism, PROFONANPE has managed to apply a useful answer to the uncertainty of sustainability, particularly in the case of beneficiaries for whom the average duration of a project (five years) is still insufficient within which to consolidate operations achieved during that period. To date, PROFONANPE has a total of USD 50 million in endowments, the purpose of which is to facilitate the sustainability of project achievements in the long run.

A formula derived from this mechanism is the generation of an endowment from the annual income gained by a sinking fund during its lifetime. In spite of the fact that a sinking fund has a determined period, by means of the proper management of investments it is possible to obtain capital in perpetuity at the end of the project. PROFONANPE has called this modality "mixed trust fund" and it is the first institution of its kind that has applied it in Latin America.

The purpose of such a mechanism is not to replace the potential sustainability of certain investments or to simply subsidize sustainability. Applying a reasonable investment strategy, the idea is to technical assist some initiatives during a certain period in order to achieve full sustainability, especially those with little prior experience or facing long periods of maturity.

Examples of PROFONANPE achievements in the past five years are shown in the following table:

Endowment funds set up by PROFONANPE

2010-2015

Source	Project	Implementation period	Project amount (USD million)	Endowment amount (USD million)	Estimated endowment amount (USD million)
GEF/WB/KfW	PRONANP	2010-2015	23.7	12.6	–
Debt swap	SINANPE III	2013-2018	10.0	–	4.0 ^a

(Germany)					
GEF/WB	Guaneras	2014-2019	9.0	2.0	–
IFAD	Payment for ecosystem services	2015-2020	5.0	2.0	–

^a Expected amount to be obtained at the end of 2018 after cumulative returns of the sinking fund.

In the specific case of the project Building the resilience of wetlands in Datem del Marañón - Peru (Wetlands project), there is an endowment of USD 5.5 million, resulting from a mixed trust fund obtained from a project whose original value (now extinct) was USD 9.2 million. The annual returns of this capital are to be allocated in perpetuity and exclusively to the Province of Datem del Marañón. Besides serving as co-financier for the implementation of the wetlands project, after its completion it will serve to strengthen and facilitate the sustainability of the activities financed during the project's life span. An average of USD 350,000–400,000 will be allocated annually.¹⁵

The core of future funding will be aimed at strengthening those bio-businesses that still require broader terms for consolidation. In particular and as appropriate, it will finance technical assistance in areas such as technology transfer, identifying new markets, marketing, maintenance of equipment, development of training workshops, internships, etc. To fulfill this purpose, an allocation of USD 250,000–300,000 annually is estimated. Likewise and in order to ensure the follow up of post-project activities, the project endowment will provide financial resources to perform the tasks of monitoring and reporting for at least five years after project completion. In this case, an annual budget of around USD 40,000 is estimated.

¹⁵ These amounts are referenced to the historical average annual return of around 7 per cent.

Annex XII. Monitoring and evaluation post-project implementation

Outcome/Output	Indicator	Target	Mean of verification	Frequency	Responsible
Outcomes					
Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks	Tonnes of carbon dioxide equivalent (t CO ₂ eq) reduced or avoided (including increased removals) as a result of Green Climate Fund (GCF)-funded projects/programmes—forest and land-use subindicator	2.63 Mt CO ₂	National MRV programme reports from the National Forest Conservation Programme	5 years	PROFONANPE in coordination with the National Forest Conservation Programme
Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	Number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options (including fisheries, agriculture, tourism, etc.)	20,413 people (4,150 families, disaggregated by gender and age)	Bio-business associations reports	Every 2 years	PROFONANPE and bio-businesses associations
Improved resilience of ecosystems and ecosystem services	Coverage/scale of ecosystems protected and strengthened in response to climate variability and change	338,000 hectares (3 environmental conservation areas (ACAs) under approved management plans)	ACA management plans reports generated by the Provincial Municipality of Datem del Marañón (PMDM)	5 years	PROFONANPE, in coordination with PMDM
Improved management of land or forest areas contributing to emission reductions	Hectares of land or forests under improved and effective management that contributes to CO ₂ emission reductions	338,000 hectares	National Forest Conservation Programme data using the MRV system being developed at the national level and data generated at the local level	Every 3 years	PROFONANPE in coordination with the National Forest Conservation Programme

Outputs					
Strengthened institutional capacity in government organizations	Institutional and regulatory systems that improve incentives for low-emission planning and development, and their effective implementation	1	Land-use planning and Climate Change Strategy implementation reports generated by PMDM	Every 2 years	PROFONANPE in coordination with PMDM
Strengthened capacity of community-based institutions	Number of ACA monitoring management plans implemented	3	ACA management plan reports generated by PMDM	Annual	PROFONANPE in coordination with PMDM
Resilience built through sustainable bio-businesses in natural resources management areas	Number of bio-businesses operating with positive cash flow	50	Integrated financial statements; field reports	Every 2 years	PROFONANPE and bio-businesses associations
Science, technology, knowledge management, and monitoring and evaluation systems established	Number of weather stations operating	4	Meteorological and Hydrological National Service of Peru (SENAMHI) reports	Annual	PROFONANPE in coordination with SENAMHI



No-objection letter issued by the focal point



PERÚ
Ministerio
del Ambiente

Viceministerio
de Desarrollo Estratégico
de los Recursos Naturales

"Decenio de las Personas con Discapacidad en el Perú"
"Año de la Diversificación Productiva y del Fortalecimiento de la Educación"

San Isidro, - 4 SEP 2015

Carta N° 183 -2015-MINAM-DVMDERN

To: The Green Climate Fund ("GCF")

Re: Funding proposal for the GCF by "ondo de Promoción de Áreas Naturales Protegidas del Perú (Profonanpe) regarding the project "Building Resilience of Wetlands of Datem del Marañón Province – Peru"

Dear Madam, Sir,

We refer to the project "Building Resilience of Wetlands of Datem del Marañón Province – Peru" in Peru as included in the funding proposal submitted by Profonanpe to us on August 7.

The undersigned is the Focal Point of Peru.

Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the project "Building Resilience of Wetlands of Datem del Marañón Province – Peru" as included in the funding proposal. By communicating our no-objection, it is implied that:

- (a) The government of Peru has no-objection to the project as included in the funding proposal;
- (b) The project as included in the funding proposal is in conformity with Peru's national priorities, strategies and plans;
- (c) In accordance with the GCF's environmental and social safeguards, the project as included in the funding proposal is in conformity with relevant national laws and regulations.

We also confirm that our national process for ascertaining no-objection to the project as included in the funding proposal has been duly followed.

We acknowledge that this letter will be made publicly available on the GCF website.

Kind regards,


Gabriel Quijandria Acosta
Vice-Minister of Strategic Development of Natural Resources
GCF Focal Point