

REDD PROJECT IN BRAZIL NUT CONCESSIONS IN MADRE DE DIOS, PERU



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History of CCB Status	Project was first validated under CCB Standard on January 15, 2014, by SCS Global Services, obtaining the Gold level. As the project was not verified for 5 years, the project is being re-validated.
Gold Level Criteria	Community and Biodiversity Gold
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1. SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Table 1.1. Unique Project Benefits

Outcome or Impact Estimated by the End of Project Lifetime	Section Reference
1) Significantly reduced GHG emissions caused by deforestation in the Brazil nut forests of Madre de Dios (329,564 hectares) by implementing the only and unique large Brazil Nut Forest Conservation project.	3.2
2) Strengthen the organizational and management capacity of the Federation of Brazil Nut Producers (FEPROCAMD), its grassroots and members to ensure the sustainable and integrated management of forest concessions.	4.2
3) Provide commercial and operational support to increase income generated by the Brazil nut activity, improving the livelihoods of the community.	4.4
4) Contribute to improving community livelihood by fostering income streams in sustainable forestry activities within the Project Zone.	2.1

1.2 Standardized Benefit Metrics

Table 1.2. Standardized Benefit Metrics

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
GHG emission reductions or removals	Net estimated emission removals in the project area, measured against the without-project scenario.	N/A	N/A
	Net estimated emission reductions in the project area, measured against the without-project scenario.	30,440,399.29 tCO ₂ e	3.2
Forest ¹ cover	For REDD ² projects: Estimated number of hectares of reduced forest loss in the project area measured against the without-project scenario.	37,220.22 ha	3.1
	For ARR ³ projects: Estimated number of hectares of forest cover increased in the project area measured against the without-project scenario.	N/A	N/A

¹ Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)

² Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

³ Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the tree, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
Improved land management	Number of hectares of existing production forest land in which IFM ⁴ practices are expected to occur as a result of project activities, measured against the without-project scenario.	N/A	N/A
	Number of hectares of non-forest land in which improved land management practices are expected to occur as a result of project activities, measured against the without-project scenario.	N/A	N/A
Training	Total number of community members who are expected to have improved skills and/or knowledge resulting from training provided as part of project activities.	405 families directly (each one composed by 4.5 members in average)	Appendix 1
	Number of female community members who are expected to have improved skills and/or knowledge resulting from training as part of project activities	115 women concessionaires	Appendix 1
Employment	Total number of people expected to be employed in project activities, ⁵ expressed as number of full-time employees ⁶ .	Variable, depending on project needs.	2.3.15
	Number of women expected to be employed as a result of project activities, expressed as number of full-time employees	At least 30% of total employees.	2.3.15
Livelihoods	Total number of people expected to have improved livelihoods ⁷ or income generated as a result of project activities.	405 families directly (each one composed by 4.5 members in average)	Appendix 1
	Number of women expected to have improved livelihoods or income generated as a result of project activities.	115 women concessionaires	Appendix 1
Health	Total number of people for whom health services are expected to improve as a result of project activities, measured against the without-project scenario.	N/A	N/A

⁴ Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

⁵ Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.

⁶ Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from the UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28])

⁷ Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
	Number of women for whom health services are expected to improve as a result of project activities, measured against the without-project scenario.	N/A	N/A
Education	Total number of people for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario.	N/A	N/A
	Number of women and girls for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario.	N/A	N/A
Water	Total number of people who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario.	405 families directly (each one composed by 4.5 members in average)	Appendix 1
	Number of women who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario.	115 women concessionaires	Appendix 1
Well-being	Total number of community members whose well-being ⁸ is expected to improve as a result of project activities.	405 families directly (each one composed by 4.5 members in average)	Appendix 1
	Number of women whose well-being is expected to improve as a result of project activities.	115 women concessionaires	Appendix 1
Biodiversity conservation	Expected change in the number of hectares managed significantly better by the project for biodiversity conservation, ⁹ measured against the without-project scenario.	329,564 ha	5.2.1
	Expected number of globally Critically Endangered or Endangered species ¹⁰ benefiting from reduced threats as a result of project activities, ¹¹ measured against the without-project scenario.	List of species*: Birds: 2 vulnerable (<i>Pionites leucogaster</i> and	5.5.1

⁸ Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Livelihoods, Health, Education and Water), and may also include other benefits such as strengthened legal rights to resources, increased food security, conservation of access to areas of cultural significance, etc.

⁹ Managed for biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation, e.g. enhancing the status of endangered species

¹⁰ Per IUCN's Red List of Threatened Species

¹¹ In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

Category	Metric	Estimated by the End of Project Lifetime	Section Reference
		<i>Primolius couloni</i>), Mammals: 3 vulnerable (<i>Priodontes maximus</i> , <i>Tapirus terrestris</i> , <i>Tayassu pecari</i>) and 1 endangered (<i>Pteronura brasiliensis</i>). Flora: 1 vulnerable (<i>Bertholletia excelsa</i>), and 2 other vulnerable recognized by DS- 043-2006-AG (<i>Copaifera paupera</i> , <i>Manilkara bidentata</i>). *Results from the biodiversity monitoring report from year 2021.	

2. GENERAL

2.1 Project Goals, Design and Long-Term Viability

2.1.1 Project Proponent (G1.1)

Table 2.1. Project Proponent

Organization name	Bosques Amazónicos SA (BAM)
Contact person	Jorge Cantuarias Falconi
Title	General Manager
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2.1.2 Project Objectives (G1.2)

CLIMATE OBJECTIVES:

- o Significantly reduce GHG emissions caused by deforestation and degradation in Brazil nut concessions in Madre de Dios.

COMMUNITY OBJECTIVES

- o Strengthen the organizational and management capacity of the Federation of Brazil Nut Producers (FEPROCAMD) and its members to ensure sustainable and integrated management of forest concessions.
- o Provide commercial and operational support to increase the income generated by the Brazil nut activity, improving community livelihoods.
- o Contribute to the improvement of community livelihoods by promoting income sources in sustainable forestry activities (conservation, reforestation, agroforestry where appropriate) within the Project Area.

BIODIVERSITY OBJECTIVES

- o Guarantee and maintain the integrity of biological diversity and ecological processes in the Brazil nut concessions and the wider Project Zone.

2.1.3 Physical Parameters (G1.3)

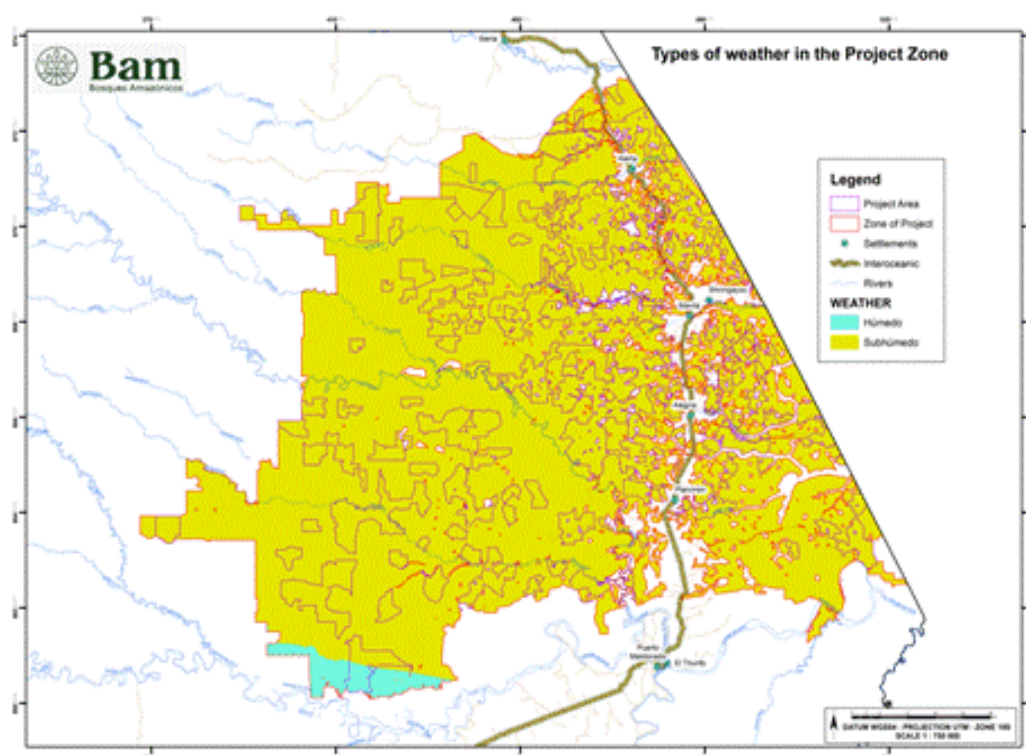
Weather

The weather in the low forest of Madre de Dios is hot and humid most part of the year. During the winter (June - August), the rains stop and sporadic cold winds from the south of the continent might lower the temperature considerably to 10° C (Barthem et al. 2003). Throughout the year, the average monthly temperature ranges from 21° to 26° C, with a maximum of 40° C and a minimum of 4.5° C. The average annual rainfall in the low forest of Madre de Dios varies between 1,500 and 3,000 mm.

According to the Climate Map from the Economic-Ecological Zoning (ZEE) of Madre de Dios, made by the Research Institute of the Peruvian Amazon (IIAP) in 2009 in coordination with the Regional Government of Madre de Dios (GOREMAD), the Project Area is characterized by two types of climates:

- Sub-Humid and Hot: covers the region's northeastern area, including 98% of the Project Area. The average annual temperature is 25°C, and it is moderately rainy.
- Humid and Hot: covers the region's south and southern western area, including 2% of the Project Area. The annual rainfall is 2000 mm, and the average annual temperature is 25°C. This climate type is rainy, dry in winter and with a warm and humid season.

Map 2.1. Weather Types in the Project Zone



In-house elaboration. Source: IIAP, 2009

Physiography

The Madre de Dios region has a heterogeneous physiography, because of the interaction of various factors such as tectonic, climatic, and hydro-erosive processes. Three major landscapes are identified:

- Great vast alluvial plain: composed by recent, growing sub and former sediments brought down by main rivers, are characterized for presenting relatively flat and slightly inclined topography (0%-8%).
- Great hilly landscape: characterized for presenting a wavy shape and strongly dissected surface, originated by the compression effects or by the erosive process they have been submitted to.
- Great mountainous landscape: characterized for presenting mountainous and rugged shapes of tectonic origins and steep to rugged slopes, with inclinations that vary from 25% to over 70%. Composed by folded structures, are unstable grounds in which landslides occur frequently.

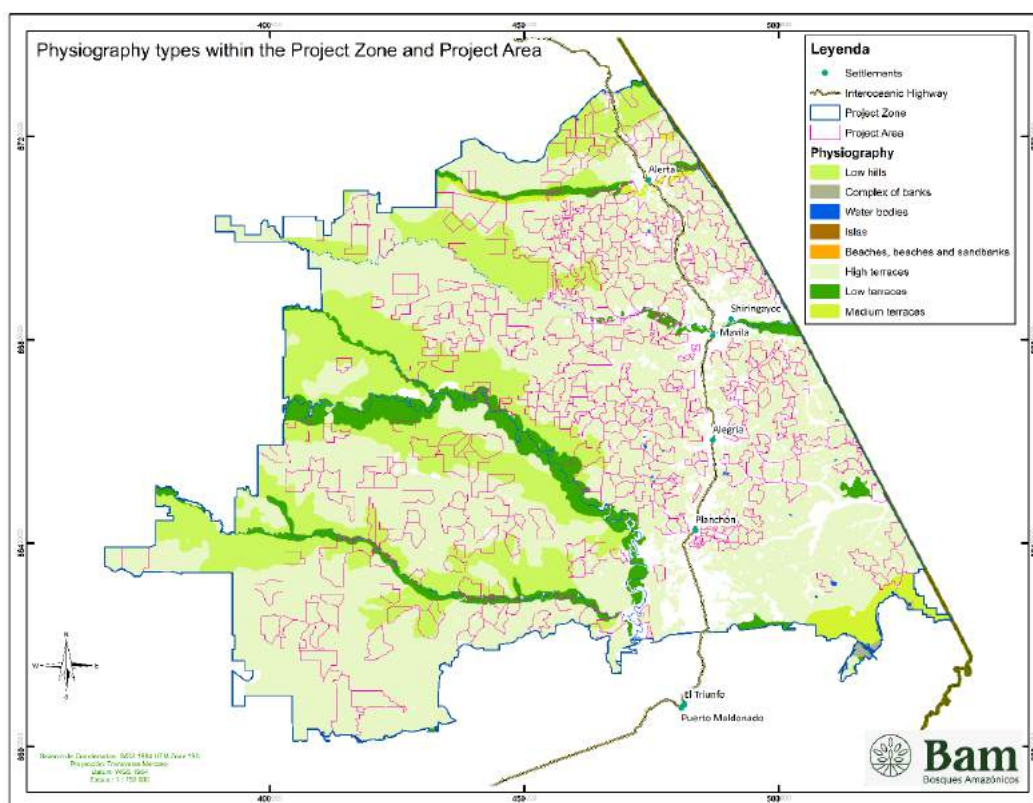
This classification is subdivided into 5 landscapes and 13 sub-landscapes, with which the Project Area is described. The High Terraces and the Low Hills sub-landscapes are the most common physiography types in the Project Zone.

Table 2.2. Physiographic Units within the Project Zone

Physiographic units	Area (ha)	%
High terraces	709,421.20	69.89
Low hills	220,296.47	21.70
Low terraces	61,514.89	6.06
Medium terraces	16,485.74	1.62
Water bodies	6,328.00	0.62
Complex of banks	1,218.28	0.12
Islas	41.22	0.004
Beaches, beaches, and sandbanks	9.04	0.001
Total	1,015,314.83	100.0

In-house elaboration. Source: IIAP, 2009

Map 2.2. Physiography types within the Project Zone and Project Area



In-house elaboration. Source: IIAP, 2009.

Soils

There are three groups/types of soil in Madre de Dios:

- Recent alluvial soil: type of soil located near rivers, which continuously receive sediments. Generally, this soil is used for agriculture. However, it is also characterized by poor drainage or hydromorphism and low fertility.

- Sub-recent alluvial soil: type of soil originated from former river sediments due to undermining channels or orogenic and epirogenic movements. In general, they are deep soils, of a moderately refined texture, flat topography and slightly wavy, a drainage which may vary from good to imperfect to poor, of a natural very low fertility. These middle and high terraces have been dissected and deepened slowly due to pluvial erosion up to the point of forming, in many cases, low hills.
- Residual soil: type of soil that is originated on site based on Tertiary and Quaternary sedimentary materials (shale, limonite, sandstones, and gravels), forming high and low hills because of various phenomena and which is neighboring the highland mountainous system. The soils are generally moderately refined, deep to superficial and an abrupt topography, which gives it a moderate to high erosive potential.

Taxonomically, twelve types of soil were identified within the Project Zone, of which Typical Dystrudepts -Typical Rodhudepts and Typical Hapludepts- Typical Hapludepts are the predominant ones as they cover 53% and 24% of the Project Zone, respectively. All types of soil are listed in **Error! Reference source not found.**, and their distribution inside the Project Zone and Project Area is shown in In-house elaboration. Source: IIAP, 2009.

Map 2.3. Types of soils in the Project Zone and Project Area

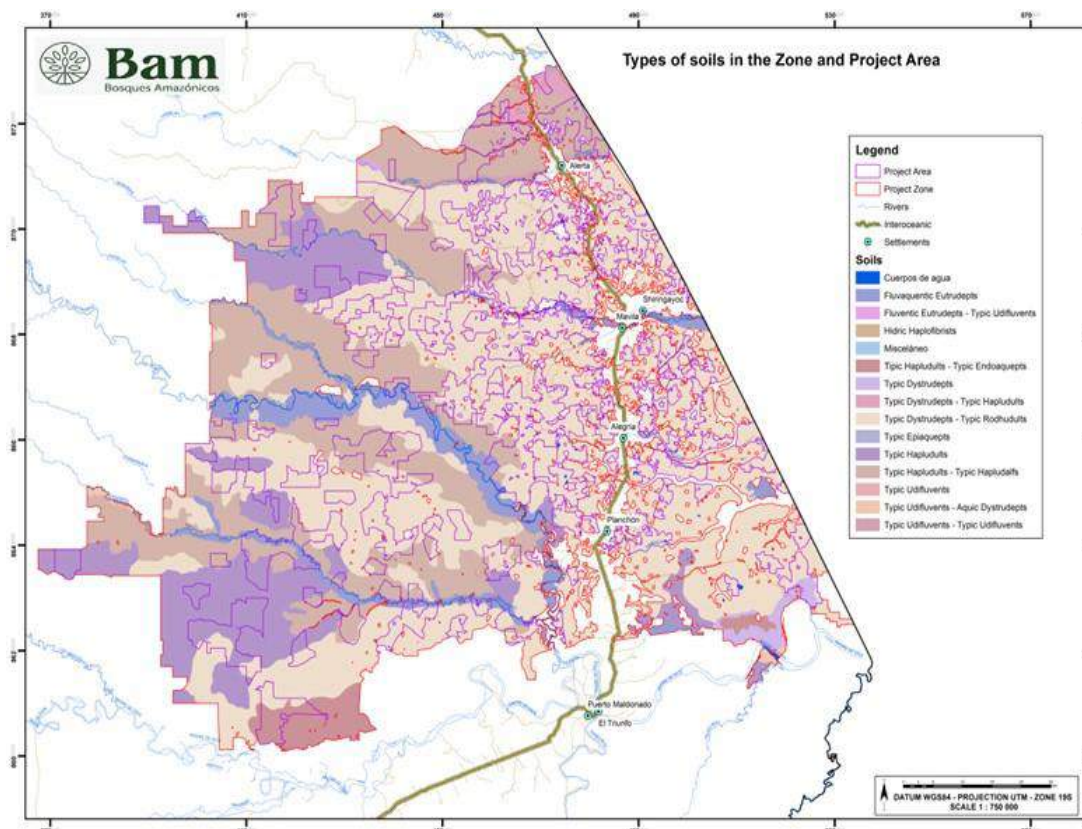
Table 2.3. Types of soil in the Project Zone

Types of soil	Area	%
Typical Dystrudepts - Typical Rodhudepts	537,668.46	52.96
Typical Hapludepts - Typical Hapludepts	245,126.08	24.14
Typical Hapludepts	128,303.34	12.64
Fluvaquentic Eutruudepts	53,807.78	5.30
Typical Hapludepts - Typical Endoaqupts	21,697.53	2.14
Typical Dystrudepts	7,889.58	0.78
Water bodies	6,328.00	0.62
Typical Udifluvents - Typical Udifluvents	5,975.57	0.59
Typical Dystrudepts - Typical Hapludepts	5,518.47	0.54
Typical Udifluvents - Aquatic Dystrudepts	2,111.87	0.21
Fluventic Eutruudepts - Typical Udifluvents	550.29	0.05
Typical Epiaqupts	255.93	0.03
Typical Udifluvents	41.22	0.00
Hydric Haplofibrists	31.69	0.00

Miscellaneous	9.04	0.00
Total	1,015,314.8	100.00

In-house elaboration. Source: IIAP, 2009.

Map 2.3. Types of soils in the Project Zone and Project Area



In-house elaboration. Source: IIAP, 2009.

Geology

Madre de Dios is situated in the Madre de Dios-Beni depression at the foot of the Andes. Every year, rivers like the Alto Madre de Dios and the Inambari flow down from the Andes carrying millions of tons of newly eroded material to this depression. Due to this constant flow of new material, the superficial geology of the department is extremely young. All the terraces in the department that have been studied so far are less than 200,000 years old and some are only 30,000 years old. Below the surface lies a layer of the same alluvial material, 3-4 km thick, deposited during the last 20 million years.

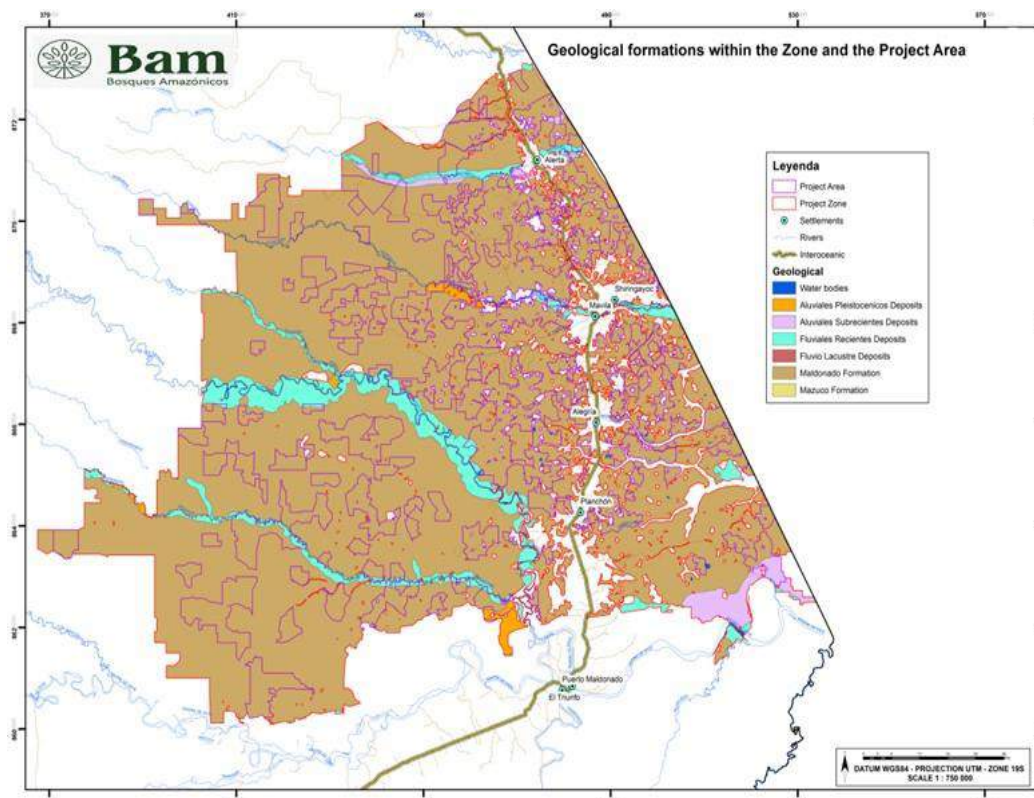
The Maldonado geological formation predominates in the Project Zone, covering 91% of the total area. This formation is comprised of deposits of gravel, conglomerates and sandstone distributed along the plain land of Madre de Dios, lying in discordance with the Madre de Dios Formation. Table 2.4 shows the area of each type of geological formation located in the Project Zone and Map 2.4 shows these formations within the Project Zone and the Project Area.

Table 2.4. Types of geological formation in the Project Zone

Types of geological formation	Area	%
Maldonado formation	922,227.15	90.8
Recent fluvial deposits	63,845.11	6.9
On growing alluvial deposits	16,485.74	1.6
Pleistocene alluvial deposits	6,389.42	0.6
Water bodies	6,328.00	0.6
lacustrine fluvial deposits	31.69	0.00
Mazuco formation	7.74	0.00
Total	1,015,314.4	100.0

In-house elaboration. Source: IIAP, 2009.

Map 2.4. Geological formations within the Project Zone and the Project Area



In-house elaboration. Source: IIAP, 2009.

Hydrography

Madre de Dios presents 11 hydrographic units, which are grouped in three great basins: the basin of the Madre de Dios River, the basin of the Tambopata River and the Acre¹² River Basin.

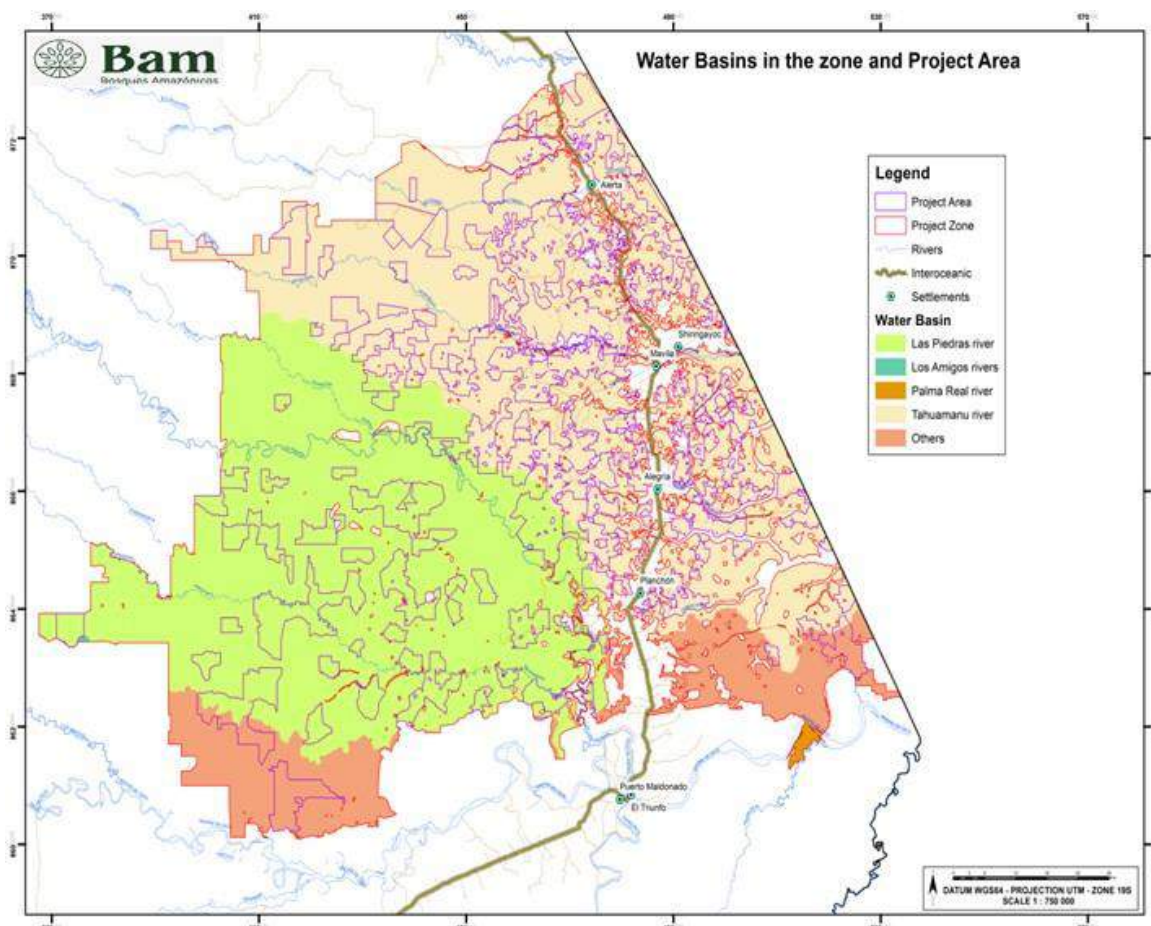
The project is in the Madre de Dios River Basin, which occupies 66% of the region and whose hydrographic-network main rivers are the Madre de Dios River (27.38%), the Tambopata River (19.03%) and Las Piedras River (12.45%). The Heath and Inambari Rivers also compose this basin.

- Madre de Dios River: It has an approximate length of 655 km and passes through Peru, Bolivia, and Brazil. The Madre de Dios River originates in the Pucara snow-capped mountain southeast of Paucartambo in the department of Cusco. The most important tributaries are the rivers Colorado, Inambari, Tambopata and Heath to the right borderline, and the rivers Manu and Las Piedras to the left borderline.
- Tambopata River: It has an approximate length of 402 km. It originates in the Carabaya Mountains (Puno). Its main tributaries are the Azata, Shenahuaja, Shehetapiti, Távara, Elías Aguirre, Malinowski Rivers, etc. The first populations used the Tambopata River for their entry, and they settled on the river's bank, which caused the discovery of gold.
- Las Piedras River: It is approximately 500 km long. Its main tributaries are the Ceticoyacu, Chanchamayo, San Francisco, Lidia, Cariyacu, Pariamanu y Upuri Capu Tuari Rivers on the right borderline. The basin of the river of Las Piedras is sparsely populated and only some estates are isolated located in its banks.

There are four sub-basins within the Project Zone: Las Piedras, Los Amigos, Palma Real and Tahuamanu. The Tahuamanu River runs over the north limit of the Project Area. To the south, from east to west, Muymanu and Manuripe Rivers run by the Mavila village. Further south Las Piedras River and its tributary, the Pariamanu River, run by. To the south and parallel to limits of the project runs the Madre de Dios River (See Map 2.5).

Map 2.5. Water Basins in the Project Zone and Project Area

¹² Environmental Baseline Study of the Basin of Madre de Dios River. 2010. Project Baseline of Rivers Basin. Ministry of Environment (MINAM)



In-house elaboration. Source: IIAP, 2009

Types of Vegetation

Natural forests cover an area of 8,102,917 hectares in Madre de Dios, which ranks as the third department in the country with the largest forest area after Ucayali and Loreto.¹³

According to the ZEE's Thematic Vegetation Map, the Region presents 22 types of natural vegetation, containing at least 2,429 species of plants (angiosperms and gymnosperms), including 869 genera and 172 families.

The most widespread types of vegetation in the Project Zone are: Semi-Deciduous Dense Forests in Plains (58.11%), Semi-Deciduous Dense Forests in Hills (14.16%), and Mixed Bamboo Communities or Mixed Pacales Associated with Scattered Trees in Plains (9.87%). Similarly, these units are the most representative of the Project Area, occupying 69%, 11% and 10% respectively. The vegetation units of the PZ and PA are shown in the following table and map:

Table 2.5. Vegetation units in the Project Zone and Project Area

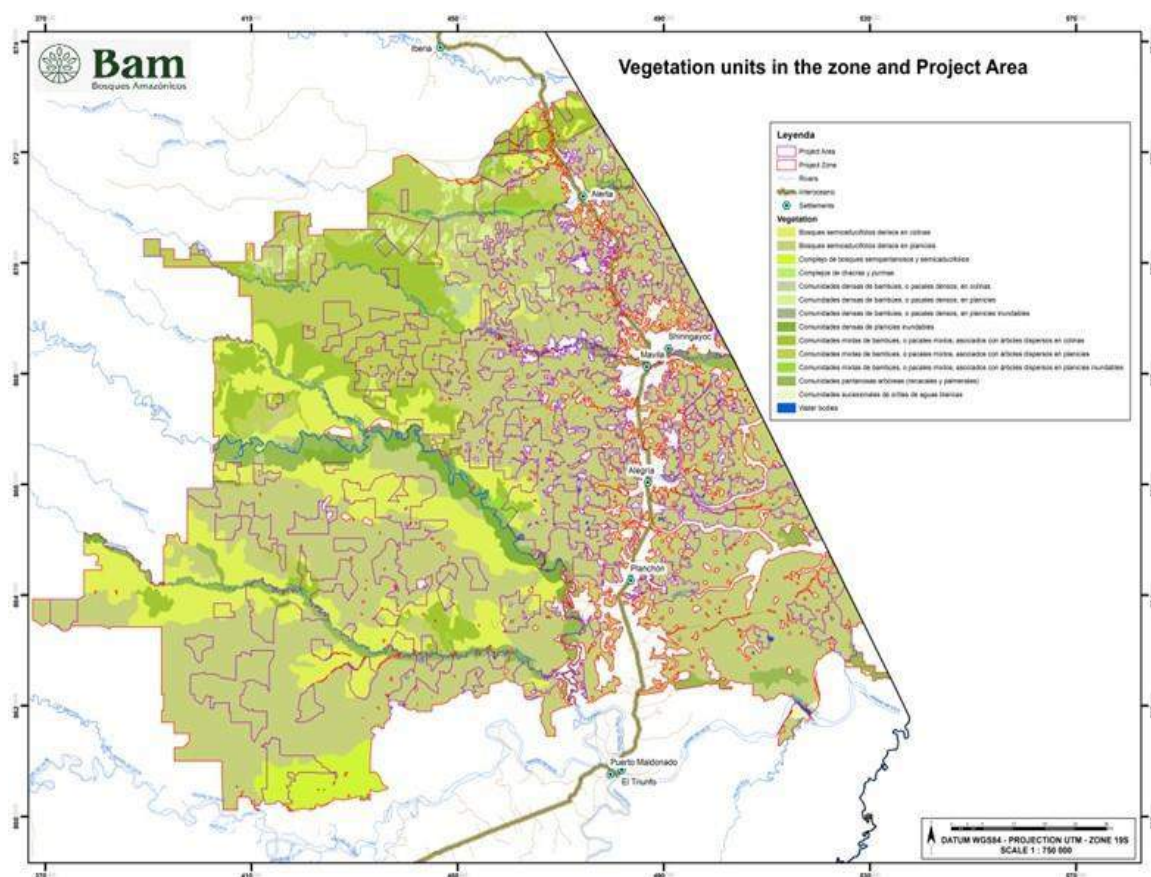
Vegetation Units	Project Zone	Project Area
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¹³ CESVI, 2005. "Model of sustainable use of forest and the concessionaire companies" Progress and challenges in the province of Tahuamanu, Madre de Dios

	Ha	%	Ha	%
Dense semi deciduous forests in the plains	590,017.59	58.11	212,050.80	68.68
Dense semi deciduous forests in the hills	143,722.70	14.16	32,868.47	10.65
Mixed communities of bamboos or mixed pacaes associated with scattered trees in the plains	100,252.82	9.87	30,656.36	9.93
Mixed communities of bamboos or mixed pacaes associated with scattered trees in the hills	69,703.85	6.87	13,381.90	4.33
Dense communities of bamboos or dense pacaes in the plains	12,320.27	1.21	5,562.52	1.80
Arboreal swampy communities	44,240.25	4.36	4,808.63	1.56
Semi swampy and semi deciduous forests complex	18,674.43	1.84	4,604.90	1.49
Dense communities of bamboos or dense pacaes in the hills	6,870.01	0.68	1,694.93	0.55
Mixed communities of bamboos or mixed pacaes associated with scattered trees in flood plains	6,347.76	0.63	1,353.71	0.44
Dense communities of flood plains	14,973.47	1.47	864.70	0.28
Water bodies	6,328.00	0.62	849.40	0.28
Successional communities of white-water shores	1,227.32	0.12	36.48	0.01
Dense communities of bamboos or dense pacaes in flood plains	636.09	0.06	24.23	0.01
Complex of deforested and agricultural lands	0.28	0.00	0.28	0.00
Total	1,015,314.8	100.0	308,757.31	100.0

In-house elaboration. Source: IIAP, 2009

Map 2.6. Vegetation units in the Project Zone and Project Area



In-house elaboration. Source: IIAP, 2009

Types of Forests

By using the Thematic Forest Map of the ZEE, nineteen types of forests inside the Project Zone were identified, of which three are predominant: High Terrace Forests with Brazil Nut Stands (57%), Low Hill Forests (14%) and High Terrace Forests with Bamboo (9.6%). Similarly, there are seventeen types of forest inside the Project Area, where the most representative ones are the three types already mentioned, covering 67.9%, 10.7% and 9.8%, respectively. All types of forest within the Project Area and Project Zone can be observed in the following table and map.

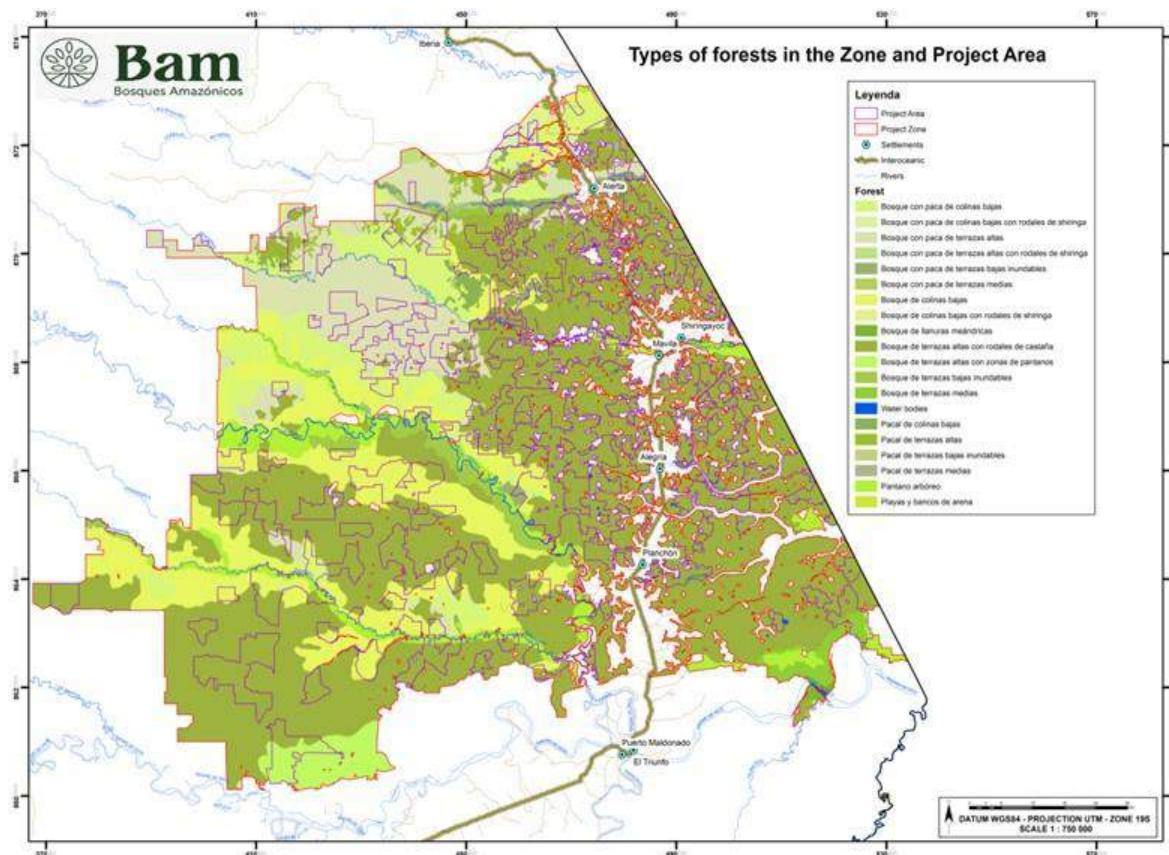
Table 2.6. Types of forest in the Project Zone and Project Area

Forest Units	Project Zone		Project Area	
	Ha	%	Ha	%
High terrace forest with Brazil nut stands	579,765.55	57.1	209,784.76	67.94
Low hill forests	142,952.93	14.08	32,343.16	10.48
Terrace Forests with Bamboo	97,522.79	9.61	30,241.11	9.79
Low hills with bamboo (paca) forest	66,349.15	6.53	11,068.55	3.58
Swamp trees	44,240.53	4.36	4,808.90	1.56
High terrace forest with swamp areas	18,674.43	1.84	4,604.90	1.49
Low flood terrace forest	14,973.36	1.47	864.70	0.28
Bamboos of high terraces	11,840.93	1.06	5,377.87	1.74
Mid terrace forest	10,252.04	1.01	2,266.04	0.73

Forest Units	Project Zone		Project Area	
	Ha	%	Ha	%
Low hills with bamboo (paca) forest and Hevea stands	3,354.70	0.33	2,313.35	0.75
High terrace with bamboo forest with Shiringa stands	1,065.43	0.10	-	-
Forests with Pacas of low floodable terraces	6,347.87	0.63	1,353.71	0.44
Forests with Pacas of middle terraces	1,664.60	0.16	415.26	0.13
Low hill forests with Hevea stands	769.77	0.08	525.31	0.17
Meandering plain forests	1,218.28	0.12	36.48	0.01
Water bodies	6,328.00	0.62	849.40	0.28
Bamboos of low hills	6,870.01	0.68	1,694.93	0.55
Bamboos of low flooded terraces	636.09	0.06	24.23	0.01
Bamboos of low flooded terraces	479.34	0.05	184.65	0.06
Beaches and sandbanks	9.04	0.00	-	-
Total	1,015,314.8	100.00	308,757.31	100.00

In-house elaboration. Source: IIAP, 2009.

Map 2.7. Types of forests in the Zone and Project Area



In-house elaboration. Source: IIAP, 2009.

2.1.4 Social Parameters (G1.3)

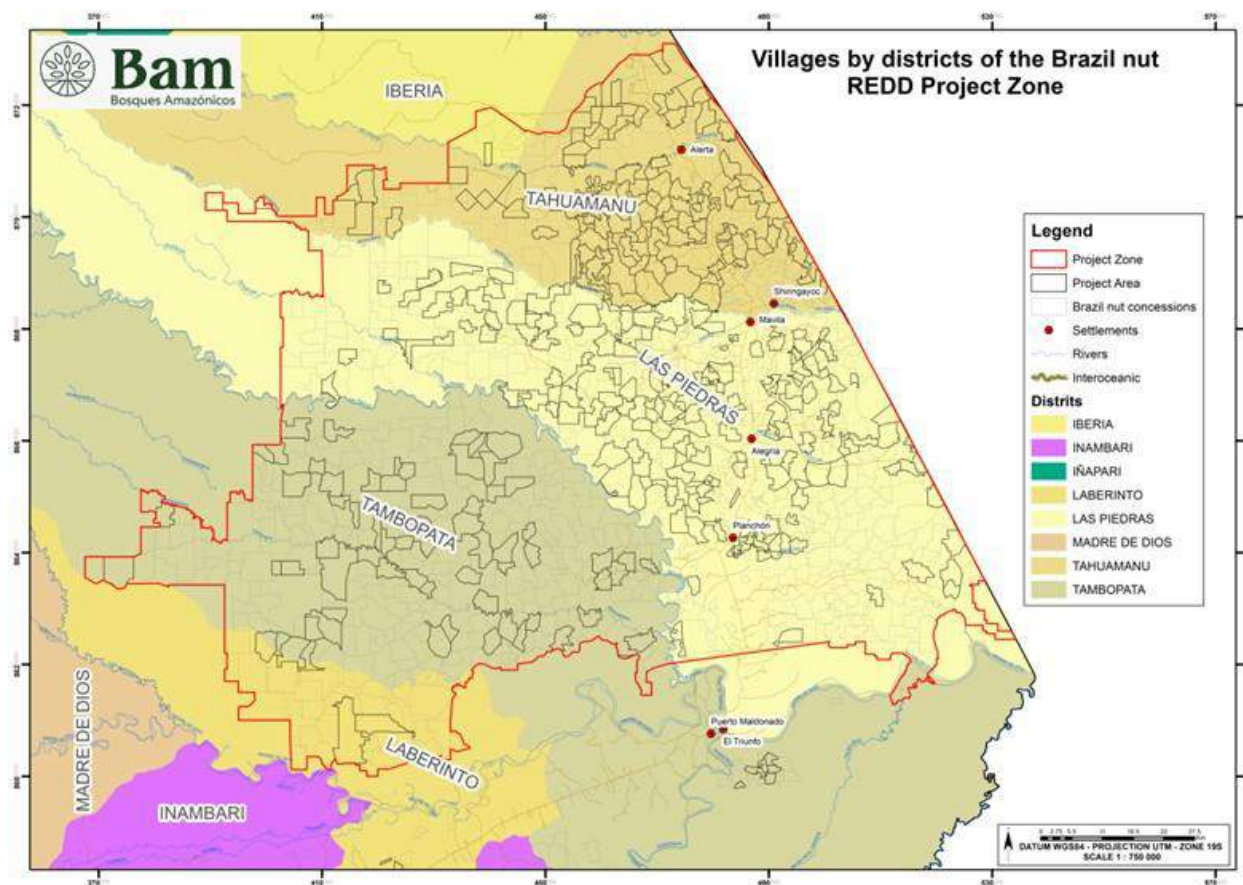
The Project Zone

Local populations in the Project Zone are mainly composed of people engaged in economic activities such as Brazil nuts collection and commercialization, timber extraction and alluvial mining, as well as agriculture, livestock, other services, and local employment. These communities are in the main population centers, housing associations and other types of scattered settlements.

Villages and Population

The most important villages within the Project Zone are located along the South Interoceanic Highway - stretch 3, which is the sector between Puerto Maldonado and Iberia. These villages are politically circumscribed to the districts of Tahuamanu (Tahuamanu province) and Las Piedras (province of Tambopata), all of them part of the Madre de Dios region.

Map 2.8. Villages by Districts within the Project Zone



In-house elaboration. Source: GOREMAD.

At the beginning of the project six villages¹⁴ were identified within the Project Zone. The total population registered (census of 2017)¹⁵ in terms of villages, accounts for 6,584 inhabitants, out of which 53.5% were males and 46.5% were females. It must be noted that, in the case of the scattered population, the population registered for the entire district was considered; therefore, it is a referential quantity.

Table 2.7. Villages and Population by gender in the Project Zone

Districts, Villages and Population (by Gender) Located in the Project Zone						
District	Populated centers	Population	Male	%	Female	%
Las Piedras	CCPP Urb. Las Piedras (Planchón)	1297	684	52.7	613	47.3
Las Piedras	CCPP Urb. Mavila	1454	758	52.1	696	47.9
Las Piedras	CCPP Urb. Alegría	1882	1030	54.7	852	45.3
Tahuamanu	CCPP Urb. Alerta	1143	607	53.1	536	46.9
Tahuamanu	CCPP Rural La Novia	446	241	54.0	205	46.0
Tahuamanu	CCPP Rural Shiringayoc	362	204	56.4	158	43.6
Total		6,584	3,524	53.5	3,060	46.5

In-house elaboration. Source: Populated centers, Census 2017- INEI

The population by age group presents a distribution with a high incidence of children and young people. Most of the population is male. However, there is a significant presence of young women. The population under 15 years of age represents 33.4% of the total population.

Table 2.8. Total population by large age groups of the districts included in the Project Zone

District and Age	Total	Large age groups					
		Less than 1 year	1 to 14 years	15 to 29 years	30 to 44 years	45 to 64 years	65 and more
Las Piedras	12 644	278	4 001	3 243	2 815	1 857	450
Tahuamanu	2 865	51	852	725	644	491	102
Total	15 509	329	4 853	3 968	3 459	2 348	552
%	100	2.1	31.3	25.6	22.3	15.1	3.6

In-house elaboration. Source: INEI - national census 2017: XI of population VI of housing (population nominally registered).

Socio-economic profile

The main poverty indicators for the Project Zone are shown in **Error! Reference source not found..** It is important to note that the districts included in the Project Zone, Las Piedras and Tahuamanu, present the following characteristics:

- 13% and 100% of the entire population is rural, respectively.
- 36% and 23% of population has no access to water, respectively.

¹⁴ The category of villages (or population centers) and scattered population used by the Census 2007, has been ordered by the Law on Territorial Organization and Position No. 27795. With this norm, the Peruvian government has established those population groups with more than 150 inhabitants as Villages.

¹⁵ For the department of Madre de Dios, the last census (Census 2017) recorded 141,070 inhabitants (0.4% of the total population of Peru), composed of 52.3% men and 47.7% women. Of this population, 82.8% are in urban areas and 17.2% in rural areas.

- 19% and 24% of the population has no access to electricity, respectively.

Table 2.9. Main indicators of poverty in the Project Zone

Madre de Dios Poverty Indicators – IDH 2018, National Census 2017									
Country, Province, and districts	Population 2017	% Rural population	Quintile	% Population without water	% Population without drainage /latrine	% Population without electricity	% Illiterate women	% Children 0-12 years old	Human development index
Peru	31,237,385	19		19	21	10	13	23	0.5891
Madre De Dios	141,070	17	3	26	38	15	13	27	0.5797
Las Piedras	12,644	13	2	36	55	19	15	30	0.5211
Tahuamanu	2,865	100	2	23	50	24	15	29	0.5621

In-house elaboration. Source: FONCODES Poverty Map.

In terms of labor force within the project Zone, the Census of 2007 registered 45.1% and 61.1% of employed labor force and 1.5% and 0.8% of unemployed labor force, in the districts of Las Piedras y Tahuamanu, respectively. It must be noted that the Census 2017 also registered 31.9% and 30.3% of non-labor force in the same districts (where the “non-labor force” is the population at age to work but who during the adopted reference period, failed to engage in or pursue an economic activity).

The labor force is linked to diverse economic activities such as: gold mining, mono-crop traditional agriculture, logging and Brazil nut extraction, livestock, and breeding of small animals. The population of the rural areas is mainly formed by former inhabitants and migrants with more than 15 years living in the area, who are dedicated to monoculture agriculture, hunting, fishery, Brazil nut collection, wood extraction, seasonal artisanal mining, and little businesses such as stores, restaurants, bars, inns, others (Lourdes Fernandez, 2009).

For the population of the districts of Las Piedras and Tahuamanu, the two most important economic activities are mining (47.6% and 30.3% of the population respectively) and agriculture, livestock, hunting, and forestry (10.1% and 35.4% of the population respectively).

Table 2.10. Main activities by group for the districts of the Project Zone

Activity according to grouping Categories	Dist. Las Piedras		Dist. Tahuamanu	
	Cases	%	Cases	%
Exploitation of mines and quarries	1,002	47.6	453	30.3
Agriculture, livestock, hunting, and forestry	212	10.1	529	35.4
Not specific economic activity	179	8.5	128	8.6
Manufacturing industry	32	1.5	80	5.4
Transportation, storage, and communication	130	6.2	47	3.1
Retail commerce	175	8.3	1	0.1
Other activities*	377	17.9	257	17.2
Total	2,107	100.0	1,495	100.0
NSA:	3,384		1,244	

In-house elaboration. Source: INEI – CPV 2007

*Agglomerates diverse activities like services, wholesome trade, financial intermediation, fishing, etc.

Brazil nut concessionaires

The main population group in the Project Zone is made up of families dedicated to the activity of collecting and selling Brazil nuts, locally called “Castañeros”, in areas of forests that were concessioned by the State through 40-year renewable contracts. Hence, Brazil nut concessionaires and their families have total access to their areas (concessions) permanently, being especially present in the area during the Brazil nut collecting season (“Zafra”).

Within the Project Zone there are 1,037 Brazil nut concessionaires¹⁶, of which 405 are currently associated to REDD Brazil nut concessions project, making up the current Project Area. In order to define the socio-economic profile of the Brazil Nut concessionaires, at the beginning of the project, BAM conducted a diagnostic study¹⁷ of the Brazil Nut sector, which enabled the collection of essential information on the socioeconomic indicators for the project design, as described below:

a) Population, age, gender, and housing

- Gender: According to a random selection of 356 project members, 71.3% concessionaires are male and 28.7% are female.
- Age: 30.5% of concessionaires have more than 60 years old (meaning that a third of them are seniors). The age factor defines many aspects of the BN activity, especially the availability of family workforce.
- Civil Status: 48% of concessionaires have a couple, but are not married, while 12% are widowed or divorced. Additionally, 96% of them have children, in an average of 5 per family, which is a high family burden. Of these children, 4 out of 5 have more than 15 years.
- Housing: The concessionaires were asked how many people lived in their house and how many rooms it had, and the following results were obtained:

Table 2.11. Overcrowding in Housing

Rooms per House	1	2	3	4	5	6	Total
Housing residents	18	31	27	17	11	5	109
Total residents per room	50	116	135	93	59	24	477
Average residents per room	2.8	3.7	5.0	5.5	5.4	4.8	4.4

In-house elaboration. Source: *Diagnóstico Castaño* (BAM, 2010).

Furthermore, 95% of concessionaires own their houses. Most of these (80%) are built of wood, as is usually the case in rural areas. Even so, it is important to mention that 12% were made with concrete.

¹⁶ Up to July 2010, by the Regional Directorate of Forestry and Wild Fauna.

¹⁷ Diagnóstico Socio-Económico del Concesionario Castaño de Madre de Dios. October 2010, Bosques Amazónicos. In the present document, we will refer to it as *Diagnóstico Castaño* for practical reasons. The methodology applied included interviews to 109 BN concessionaires, whom constitute the 10% of the total of BN concessionaires in Madre de Dios. Said interviews were implemented randomly, without distinction in gender or age, in the different sectors with greatest relevance defined by a high degree of BN population on them (Alerta, Mavila, Alegría, Planchón and Puerto Maldonado). It was a priority to have at least 25% of interviews directed to woman concessionaires.

Restrooms consist mainly of pit latrines made by the concessionaires themselves (81%). In most cases, water is supplied by the public system (61%); however, in some sectors such as Pariamanu and Alegria, water is obtained from rivers and streams.

b) Productive activities of the Brazil Nut Sector

Research conducted by IIAP in 2006¹⁸ states that in Madre de Dios, Brazil nut activity is an important source of income for 6,500 families, either directly or indirectly. It is estimated that between 15,000 to 20,000 people are involved in Brazil nut collection, which represents 22% of the total population of the region. 57% of the Brazil Nut concessions are located near highways and the 43% are accessed through rivers.

The Brazil nut activity has a long history, recording its exploitation since middle of last century. According to the survey, the oldest Brazil Nut harvesters are those who have worked since the 1950s. Between years 1970-1999 many Brazil Nut harvesters initiated their activity (74%). Those who entered after year 2000 did so under the formalization process through forest concessions; they represent the youngest group in the region.

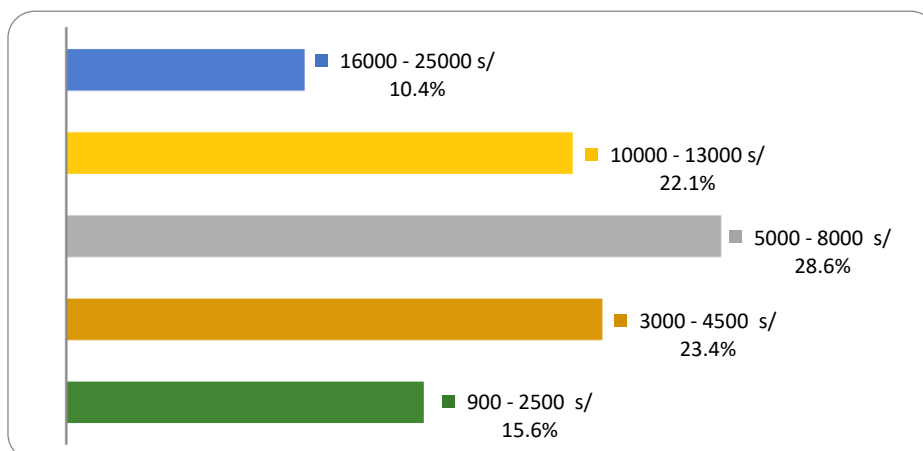
A study made by FAO in 2007¹⁹ states that this activity generates an average of 67% of the concessionaire's annual gross income, equivalent to US\$ 6,410.0 dollars per year or US\$ 534.2 dollars per month. Revenues were estimated based on the volume of peeled nuts sold at the 2006-zarfra price (7.0 – 9.0 soles/kg). However, the study notes that the average family has 6 members, meaning that a monthly income per person is US\$ 89.0 dollars, much less than the country's minimum wage (US\$ 260 dollars/month approximately).

The survey shows that the concessionaires' profits range from S/. 900.0 to S/. 25,000.0 soles/year (or US\$ 320.0 – US\$ 8,928.0 dollars approx.). This makes a simple average of S/. 7,204.2 soles/year (or US\$ 2,573 dollars) and S/. 600.4 soles/month (or US\$ 214 dollars). The 74% of concessionaires earn between S/. 3,000 to S/. 13,000 soles/year.

¹⁸ Evaluación Económica de la Extracción de Castaña (*Bertholletia excelsa* H.B.K) – Departamento de Madre de Dios. (Working paper). Luis Álvarez Gómez and Sandra Ríos Torres. Programa de Ordenamiento Ambiental - IIAP. Iquitos Peru. 2006.

¹⁹ Perú: La Industria de la Nuez de Brasil en Madre de Dios. In: Las Microfinanzas y las Pequeñas Empresas Forestales. Estudio FAO: Montes 164. Roma. 2007.

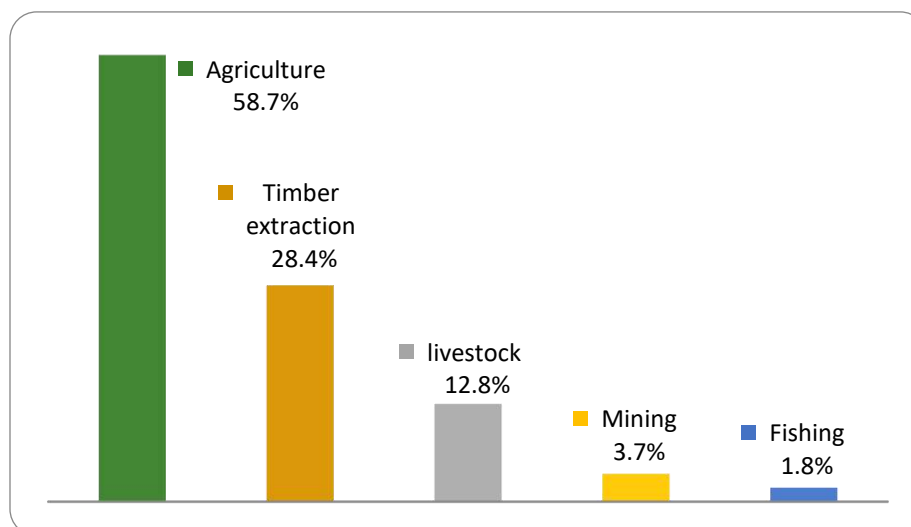
Figure 2.1. Annual income ranges of the Brazil nut concessionaires



In-house elaboration. Source: *Diagnóstico Castañero* (BAM, 2010).

Besides the Brazil nut activity, concessionaires engage in other economic activities to complement their sources of income as shown in Figure 2.2. Agriculture is the second most common activity, followed by timber extraction, which is carried out legally through the development of a complementary management plan.²⁰

Figure 2.2. Complementary activities undertaken by the Brazil nut concessionaires



In-house elaboration. Source: *Diagnóstico Castañero* (BAM, 2010).

Agriculture is mainly carried to produce staple food for self-consumption and/or sale in the local market. The production is focused on corn, plantain, rice, and cassava. Additionally, the concessionaires grow other products, but in a much lesser volume, like papaya, chili, mango, avocado, coffee, sapote, sugarcane, pineapple, sacha inchi, sweet potato, etc.

²⁰ Since year 2002, timber harvesting for commercial purposes inside a Brazil nut concession is allowed (Supreme Decree N°014-2006-AG), for which it must be presented an Annual Complementary Management Plan (PMCA). The *Intendencia Forestal de Fauna Silvestre* (the former forest authority) established the maximum permissible extraction volume be equal to 5.0 m³/ha.

This activity is mostly developed in the agrarian plots possessed or owned by the Brazil nut concessionaires, but in some cases, it also occurs within the Brazil nut concessions.

c) Sociocultural Profile

- **Formal Education:** According to the survey, 52% of Brazil Nut concessionaires have received elementary education and 32% of them have received secondary education. 6.4% of Brazil Nut concessionaires had no studies. These percentages are reflected in the level of reading and writing, where 89.9% of Brazil Nut concessionaires said they could read and write very well. Even so, note that if the percentages of Brazil Nut concessionaires who do not read and those who read poorly are added, it makes up 8.3%.
- **Culture:** Brazil Nut concessionaires can be described as of Andean-Amazon culture. The survey shows that 49.5% of the population was born in Madre de Dios, while 42.2% of Brazil Nut concessionaires were born somewhere in the southern highlands of Peru (67.4% come from Cusco and 21.7% come from Puno). Half of the migrant Brazil Nut concessionaires came to Madre de Dios more than 30 years ago and most of them (79%) at least before the 90's. Of all Brazil Nut concessionaires interviewed, the 75% said they identified themselves with the Amazonian culture and specifically, 66% said they were "Madrediosense" (regional identity that includes "Huarayos", Castañeros and "Maldonadenses"). On the other hand, 19% claims an Andean identity.
- **Language:** The Quechua is the second language in importance, after Spanish. 34.9 % of Brazil Nut concessionaires speak it fluently and 13.8% understand it.
- **Religion:** Brazil Nut concessionaires are religious people. A great majority is catholic (73.4%), and an important sector (16.6%) is evangelical. The term "Christian" includes everyone with a religious belief without referring to a specific religion.

Other people involved in the Brazil nut activity

The production of the Brazil nut has four components: the production, harvesting, processing (drying and soaking, peeling, peeled nut drying) and commercialization (FAO, 2007)²¹.

This activity involves various actors or agents, from collection to processing for getting the peeled and dry nut, which is the final product sold in local and international markets. Said agents are the concessionaires, "barriqueros", intermediaries, processing people and exporting companies. Beside this group, the NGOs supporting concessionaires at various stages of the production chain, as well as the Brazil nut concessionaire's organization itself complete the social group of the Brazil Nut activity (IIAP, 2006)²². They are described next:

- **Brazil nut producer:** Called Castañero or Castaña producer, he/she is the concession holder that among with his/her family, organizes the extracting activities and optionally, the processing ones.

²¹ Perú: La Industria de la Nuez de Brasil en Madre de Dios. In: Las Microfinanzas y las Pequeñas Empresas Forestales. FAO Study: Montes 164. Food and Agriculture Organization of the United Nations. Rome. 2007.

²² Evaluación Económica de la Extracción de Castaña (*Bertholletia excelsa* H.B.K) – Departamento de Madre de Dios. (Working paper). Luis Álvarez Gómez and Sandra Ríos Torres. Programa de Ordenamiento Ambiental - IIAP. Iquitos, Perú. 2006.

- Barriquero: A person hired by the concessionaire in charge of collecting and transporting the nuts from the forest to the camp store. His salary depends on the volume of nuts collected.
- Peelers: Women are preferred for this job, as the peeling step is critical for the quality of the product.
- Intermediates: Their job is to buy directly the first nuts out of the camps to supply the companies. Many of them are financed by companies. Their profit is obtained through the sales margins from the transactions.
- Processing and trading companies: In Madre de Dios there are several companies that buy, process, and export the Brazil nuts. Some of them are "El Bosque EIRL", "La Nuez SRL", "Candela Perú", "La Selva SA", "Agricultoras Forestales SAC", among others.
- NGOs: They promote Brazil nut activity development and the conservation of the Brazil nut forest. Some of these NGOs are "Asociación para la Conservación de la Cuenca Amazónica" (ACCA), "ProNaturaleza", "CAMDE Perú", "Sociedad Peruana de Derecho Ambiental" (SPDA), "Rainforest Alliance", "World Wildlife Fund" (WWF), etc.

Farming Producers

The Agrarian Plan of Madre de Dios indicates agriculture is an "Activity characterized by the dominance of the traditional migration system, adapted to the conditions of the region: the prevailing use and/or application of unimproved seed and poor agricultural practices: slash and burn, use of common seeds and hand harvesting, and by restricted and inadequate external inputs. This system is subject to weather conditions and availability of poor soils with high acidity (typical forest), which added to the above, results in low yields. The production goes to the livelihood of the rural population and a small surplus for the local market, which does not cover the regional demand." OPA/DRA-GOREMAD.

In addition, the agricultural activity in Madre de Dios²³ is considered a livestock-dominated economic front associated with subsistence agriculture, covering 583,526 hectares or 3.08% of the Madre de Dios area. "The agrarian activity is subsistence-driven with emphasis in livestock; there is predominance of grasses growing on agricultural lands, which is reflected in the statistical data of 2007, which shows that about 56.4% of the total area corresponds to growing pasture." IIAP-GOREMAD, 2008.

Despite the livestock predominance is seen in all the grasslands present in much of the road axis, especially between Santa Rosa town - Puerto Maldonado City and El Triunfo Town - Iñapari City; IIAP notes that "the large majority of grasslands don't contain the number of cattle they can sustain, or in many cases, there was no evidence of a head of cattle, which gives the impression that grasslands were made in order to consolidate and protect land possession from the likely invasion by other settlers." IIAP-GOREMAD, 2008.

Concerning the profits of this activity, "The average annual income of farmers in Madre de Dios, determined by the ratio between the gross value of farming production and the number of farmers,

²³ Informe: Uso actual de las tierras. Juan Manuel Ramírez Barco. Zonificación Ecológica y Económica del Departamento de Madre de Dios. IIAP – GOREMAD.

for the year 2007 was S/. 5,951 soles, with a monthly average of S/. 496 soles per month." DIREAG/GOREMAD, 2007.

In the Project Zone, there are people who develop agricultural activities such as farmers, ranchers and others. These people are owners or possessors of agricultural lands along the Inter-Oceanic Highway, secondary roads, and riverbanks of the Tahuamanu, Inambari and Madre de Dios Rivers. Most farmers have land titles, many of them provided by the former land titling program²⁴ of the Ministry of Agriculture. Currently, the Organism for the Formalization of Informal Property (COFOPRI) grants these titles.

Table 2.12. Average Area of Farms in Las Piedras and Tahuamanu Districts

District	N° Farms	Area (Ha)	Area/Farm (ha)
Las Piedras	1,904	47,785	25.1
Tahuamanu	678	20,640	30.4

Source: Digital database – BAM.

The cultivated area within the districts of the Project Zone, in year 2001, was equal to 5,452 hectares, composed by pastures, rice and yellow corn (the main crops of said year) in a proportion of 56.7%, 17.6% and 9.9%, respectively.

Table 2.13. Cultivated Area per District per Crop

Crop	Agrarian Regency (ha)		
	Las Piedras	Tahuamanu	Total
Rice	781	180	961
Beans	27	64	91
Yellow Corn	380	160	540
Soy	3	0	3
Cassava	192	22	214
Plantain	348	36	384
Pastures	2,171	918	3,089
Papaya	15	5	20
Others	100	50	150
Total	4,017	1,435	5,452

Source: Plan de Desarrollo Concertado de Madre de Dios 2002-2011(various authors).

2.1.5 Project Zone Map (G1.4-7, G1.13, CM1.2, B1.2)

The Project Area (PA) is formed by a set of non-timber concessions, specifically Brazil nut (BN) concessions that were granted by the Peruvian Government from year 2002, after the recognition and regulation of this activity by the Forestry and Wildlife Law of year 2000.

These concessions are dispersed in a well-defined zone, where most BN concessions (approx. 1000) are located (both margins of Stretch 3 of the Inter-Oceanic Highway, most of them at the left side). In the beginning, 377 concessions joined the Project, but the number increased during the

²⁴ Proyecto Especial de Titulación de Tierras y Catastro Rural (PETT).

first three years of operations, reaching 405 associates so far. More concessions are expected to join the project in the future (as it is a grouped project).

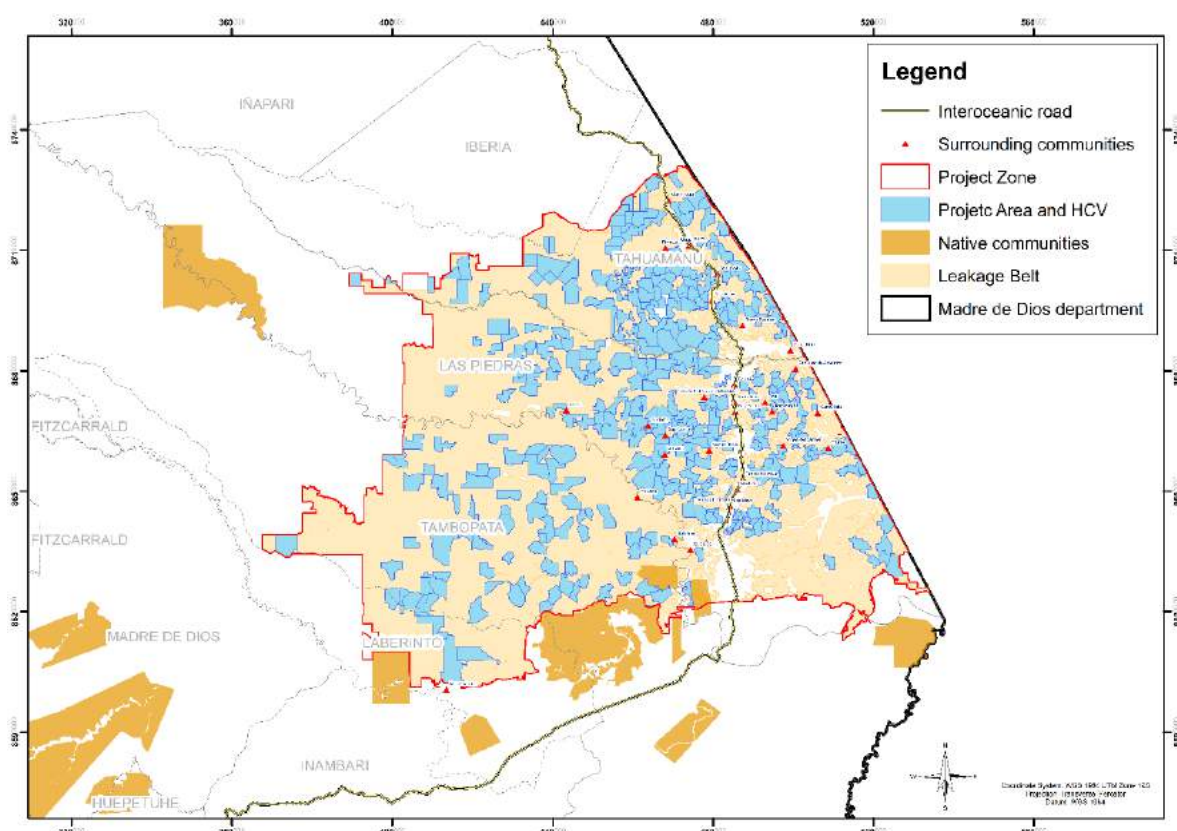
Each concession consists of an irregular polygon of "n" vertices²⁵. Appendix 1: Centroid Coordinates of Concessions in Project Area shows a table with the unique code for each concession (which is the contract's code), their areas and centroids coordinates.

The boundaries of the PA were defined based on the legal boundaries of each concession contract, to which the following exclusions were made:

- Areas that were deforested prior the project start date, that are mainly located near the IOS and secondary roads, because of VCS's eligibility criteria.
- Overlapping areas between BN concessions by dissolving all the boundaries to obtain a net area, so no double-counting occurs. In this regard, the project design includes activities aimed at closing the boundaries of each concession with formal agreements and official recognition by the forest authority.
- Areas that could be classified as peats according to the Forest and Soil maps from the ZEE (IIAP, 2009), because of applicability criteria of the methodology used.

The resulting Project Area is 329,564 hectares of forestland (at the project start date).

Map 2.9. Project Area Boundaries



In-house elaboration.

²⁵ The coordinates of the vertices of each concession are not shown in this document due to practical issues but are kept available in BAM's office.

Another project boundary is the Leakage Belt, which is the area expected to receive some of the avoided deforestation from the Project Area. Because the Leakage Belt is large enough (over twice the project area) and is mainly composed by other BN concessions with equal risk of invasion and land use change, it is considered that areas beyond this boundary will not suffer leakage. In the same way, people living outside the Project Zone whether forestry concessionaires, miners, native communities, etc. are unrelated to the project, therefore, they will not be affected either positively or negatively by the activities of it.

The Project Zone has been determined as the Project Area plus the Leakage Belt, with a total area of 1,015,316 hectares which covers the entire Brazil Nut region.

This boundary was considered sufficient to estimate the influence of activities of the project due to the following considerations:

- It is mainly composed by landholders of similar characteristics (BN concessions) of those who occupy the Project Area. They are only differentiated by their adhesion to the REDD+ project, being this a circumstantial situation that can vary with the adhesion and/or withdrawal from the project.
- The Brazil nut concessionaires, as well as the owners of agricultural properties, are rural families of scarce resources that live of these activities for their subsistence.
- It is in an equidistant way from the principal access roads, terrestrial and fluvial.

2.1.6 Stakeholder Identification (G1.5)

For the identification of project stakeholders, the area of influence of the project was established, as well as the community groups directly or indirectly affected by the REDD+ project.

The Project area is made up only of Brazil nut concessionaires who are the interested parties and partners of the Project who are organized and make up the FEPROCAMD.

The Brazil Nut Concessionaires are the owners and users of these forests. Being Brazil nut collection and commercialization the main source of income traditionally in the area, the concessionaires saw the need to strengthen the care of their forests through the REDD+ mechanism, with the aim of protecting their areas and the biodiversity of their forests, promoting better livelihoods for them and their families.

Stakeholder identification process was carried out during project design and planning, in conjunction with concessionaire partners. The process consisted of field information gathering, conducting both individual interviews and focus groups used to collect key data for project formulation, based on the realities of the area and the needs of the project partners. Secondary information relevant to the project design was also collected.

The process of identifying the project stakeholders was based on the following criteria:

- Social relevance: especially neighboring social groups (communities, concessionaires, agricultural producers, farmhouses, etc.)
- Technical relevance: especially entities that have a key role related to forests and natural resources.

- Political relevance: especially administrative authorities at local, regional, and national levels.
- Economic relevance: for the type of actors that develop an activity similar to that of the project proponent and in the surrounding area, since potential synergies can occur, and generate income and improvements in the quality of life.

2.1.7 Stakeholder Descriptions (G1.6, G1.13)

Table 2.14. Stakeholder Descriptions

Type of Stakeholder	Stakeholder	Rights	Interest	Overall Relevance to the Project
Direct Stakeholder (Community): Project Partner	Brazil Nut concessionaries (405)	Concessionaires with rights for the use of natural forest resources in their areas according to concession contracts granted by the Peruvian state who voluntary participate in the REDD+ project.	Socio-economic welfare through conservation and sustainable management of forests.	Direct beneficiary
Project Partner's organization	FEPROCAMD (Federación de Productores Castañeros de Madre de Dios)	Coordinate and collaborate in the development of project activities. Disseminate the position and decisions of the majority of the concessionary partners grouped in the federation and partners in the project.	The welfare of the concessionaires grouped in the federation and the protection and sustainable management of their areas.	Organization which groups concessionaire project partners
Project Proponent	Bosques Amazónicos SAC	Develop project activities in coordination with FEPROCAMD. Furthermore, carry out the technical and commercial development of the project under the standards of the voluntary carbon market.	Forest conservation, socio-economic development,	Project Developer
Other stakeholder (indirect): Brazil nut concessionaire non-project partners	Brazil nut concessionaire non-project partners	Concessionaires with rights for the use of natural forest resources in their areas according to concession contracts granted by the Peruvian state who does not participate in the REDD+ project.	Brazil nut activity. Participation in the FEPROCAMD.	Indirect stakeholder

Type of Stakeholder	Stakeholder	Rights	Interest	Overall Relevance to the Project
Other stakeholder: Local Municipalities	District Municipalities of Tahuamanu, Las Piedras and Tambopata	Local authorities legally recognized by the Peruvian state.	Represent the neighborhood, promote the adequate provision of local public services, promote the well-being of the neighbors and the integral and harmonious development of their locality.	Possible Local strategic partner for the development and strengthening of the project activities.
Other stakeholder: Regional Authorities	Regional Government of Madre de Dios: - Regional Forestry and Wildlife Management (GERFOR) - Regional Management of Natural Resources - Regional Management of Territorial Planning and Conditioning	Legally recognized authority with administrative rights of control, supervision, and development of its jurisdiction (www.regionmadrededios.gob.pe)	Forest conservation and sustainable management of forest resources, as stipulated by law. Community well-being.	Regional strategic partner for the development and strengthening of the project activities.
Other stakeholder: National authorities	Ministry of Environment (MINAM)	MINAM oversees Peru's forest carbon initiatives.	Its mission is to ensure the sustainable use, conservation and protection of biological diversity and other natural resources, comprehensive management of climate change and environmental quality in an effective, decentralized, inclusive and articulated manner for the benefit of	MINAM oversees Peru's forest carbon initiatives.

Type of Stakeholder	Stakeholder	Rights	Interest	Overall Relevance to the Project
			people and the environment; in the framework of green growth, climate action and environmental governance.	
	Specialized Prosecutor's Office in Environmental Matters (FEMA)	Competent national legal authority for investigating and preventing environmental crime.	Represent, defend, and protect the general interests of society in environmental matters, collaborating in the protection of the environment and the ecosystem; through the investigation of those facts that may qualify as environmental crimes.	Strategic partner for monitoring and control of deforestation and degradation threats in the project area.
	Agency for the Supervision of Forest Resources and Wildlife (OSINFOR)	Entity in charge, at the national level, of supervising and overseeing the use and conservation of forest and wildlife resources, as well as the environmental services provided by the forest, for their sustainability, in accordance with the national policy and strategy for integrated management of natural resources and the policies on environmental services established by the Ministry of the Environment, within the scope of its competence.	Supervise and control the sustainable use of forest and wildlife resources, as well as ecosystem services, for the benefit of the population, in an objective, efficient and transparent manner.	Strategic partner for monitoring the areas in the project zone to control the sustainable use of forest resources.
Other stakeholder (indirect): Producers in	Miners (belong in many cases to a regional	Holders of properties and concessions surrounding the project area, who have influence over the	Land use for mineral extraction (gold). Land use planning	Establish the proper boundaries of the areas in

Type of Stakeholder	Stakeholder	Rights	Interest	Overall Relevance to the Project
the Project Zone	federations of miners)	state of natural resources in their area.	(demarcation of their properties). Participation in natural resource management processes and articulation with authorities in the region.	order to ensure their correct management, avoiding possible conflicts between the different concession holders in the region.
	Farmers (belongs in many cases to a regional federation of farmers)	Holders of properties surrounding the project area, who have influence over the state of natural resources in their area.	Land use for crops and land use planning (demarcation of their properties). Participation in natural resource management processes and articulation with authorities in the region.	Establish the proper boundaries of the areas in order to ensure their correct management, avoiding possible conflicts between the different concession holders in the region.
Other stakeholder (indirect): Indigenous Communities	Native Community Tipishca	Native communities have legal existence and are juridical persons. They are autonomous in their organization, in communal work and in the use and free disposal of their lands, as well as in economic and administrative matters, within the framework established by law.	Land use for crops and land use planning (demarcation of their properties).	Territory in the boundaries (outside) of the project. Possibility of being an ally for land use planning in the area of influence of the project (limits).
	Native Community Tres Islas	Native communities have legal existence and are juridical persons. They are autonomous in their organization, in communal work and in the use and free disposal of their lands, as well as in	Land use for crops and land use planning (demarcation of their properties).	Territory in the boundaries (outside) of the project. Possibility of being an ally for land use planning in the

Type of Stakeholder	Stakeholder	Rights	Interest	Overall Relevance to the Project
		economic and administrative matters, within the framework established by law.		area of influence of the project (limits).
	Native Community Bocapariamanu	Native communities have legal existence and are juridical persons. They are autonomous in their organization, in communal work and in the use and free disposal of their lands, as well as in economic and administrative matters, within the framework established by law.	Land use for crops and land use planning (demarcation of their properties).	Territory in the boundaries (outside) of the project Possibility of being an ally for land use planning in the area of influence of the project (limits).
	Indigenous Federation of the Madre de Dios Rivers and Tributaries (FENAMAD)	FENAMAD is the regional representative organization of the indigenous peoples of the Madre de Dios River basin that defends the fundamental and collective rights of indigenous peoples and native communities, including the rights of isolated indigenous peoples and those in initial contact.	Defends the fundamental and collective rights of indigenous peoples and native communities, including the rights of isolated indigenous peoples and those in initial contact.	Possibility of being an ally for land use planning in the zone of the project (boundaries).

2.1.8 Project Activities and Theory of Change (G1.8)

The next table presents the project activities alongside the expected results in the short, medium, and long term. Then, a more detailed description of each activity is provided.

Table 2.15. Project Activities and Theory of Change

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
Climate				
R1. A1. Implement a holistic monitoring, control, and surveillance system (MCS) (satellite or space-based, technical, legal) to address deforestation threats.	A) Implement a satellite system to identify deforestation threats within the project zone.	Activate deforestation and/or degradation monitoring and control measures in the project's area of influence in an efficient manner according to the established protocol (see Figure 2.3). Use high tech resources for identifying deforestation threats throughout the project's lifetime. Implement an early warning system to detect hot spots (fire alerts) using spatial data (e.g., GEOBOSQUES) to identify risks within the project area in a timely manner, duly activating control mechanisms if necessary.	BN concessions with decreased risk of deforestation and dissuasive actions implemented to prevent it. Conservation of the habitats and natural resources on which the livelihoods of project partners (concessionaire families) depend. Empowered concessionaires with capabilities and tools to identify and report potential threats in the project area, and with an active participation in the MCS system.	R1. Significantly reduce GHG emissions caused by deforestation and degradation in BN concessions in Madre de Dios.
	B) Establish a qualified technical and legal team to provide ongoing support to the concessionaires to efficiently identify, monitor, and address threats of deforestation and / or degradation within the project area. Accompany concessionaires in the process of reporting possible environmental crimes in the area to the competent authorities (legal department).	Identify high risk areas and conduct spontaneous patrols or expeditions to prevent possible threats of deforestation and/or degradation in Brazil nut forests. Activate mechanisms to control deforestation and/or degradation in the project area in accordance with established protocols (see Figure 2.3).	Support from institutions/ organizations in the fight against deforestation and degradation of BN concessions.	

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
		Provide support to concession holders to report any events (of deforestation / degradation) occurring in their areas and set up a legal team to provide advice for reporting and following up on cases before the competent authorities.		
	C) Involve concessionaires in the MCS system, with resources such as technological tools (e.g., apps) to identify and curb potential deforestation and/or degradation threats within the project area in a timely manner.	Provide concessionaires with better skills and knowledge to monitor and manage their concessions adequately.		
	D) Seek to celebrate cooperative agreements with relevant authorities and/or organizations to strengthen the capacity of the project and concessionaires to effectively respond to deforestation threats.	Cooperation agreements with relevant authorities and/or organizations celebrated. Facilitate patrols and/or operations in conjunction with the forestry authorities (verification of possible damage within the project area). Strengthen the capacity to respond to illegal activities in the project area (e.g., illegal logging and mining).		

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
R1. A2. Provide continuous training to project stakeholders in sustainable forest management (e.g., concession management; concession monitoring and control; sustainable productive activities, etc.), and other related topics of interest focused on the adequate development of the community and maintenance of the forest.	Implement decentralized training workshops throughout the year to strengthen the capacities of project stakeholders in topics of interest such as: - Monitoring control and surveillance: operation processes and protocols of the MCS system and concessionaires' roles, responsibilities, and reaction protocols to prevent deforestation threats. - Sustainable forest management: to adequately manage the concessions in accordance with the commitments established with the Peruvian state. - Sustainable forestry activities: for fostering the development of sustainable economic activities that seeks community benefit and biodiversity conservation. - Leadership and concession succession workshops are also proposed, so that the conservation commitment is sustainable over time, passed from one generation to the next. Training may be carried out in collaboration with authorities and/or other organizations to reinforce the topics to be covered, depending on the degree of specialization and to achieve a broader scope of participation of partners and non-partners (other stakeholders) in the training events.	Capacity building aimed at providing concessionaires and/or indirect beneficiaries (other stakeholders) with more and better tools to adequately manage their concessions and improve their livelihoods. Favor the relationship and dialogue between project stakeholders and corresponding authorities. Favor the understanding and commitments of the partners regarding the scope of the project (concessionaires).	Concessionaires with improved skills for the proper management of their areas in accordance with the provisions of their concession contracts and commitments to the project. Concessionaires and/or indirect beneficiaries (other stakeholders) with capabilities and tools to improve their livelihoods around the conservation and sustainable management of forest resources. Project partners committed to and empowered with the management of the project.	R1. Significantly reduce GHG emissions caused by deforestation and degradation in Brazil nut concessions in Madre de Dios.

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
R1. A3. Support project partners in the proper management of their areas by providing technical assistance for the fulfillment of their commitments as concession holders. Specifically, support concessionaires in the preparation and presentation of their management documents and concession delimitation and management processes.	A) Establish a specialized team to provide support to concessionaires in technical matters related to concession management, among others, for the preparation of management plans and other documents required as part of their commitments as concessionaires.	Management plans duly designed and submitted to the competent authorities. Technical support provided to properly manage forest concessions according to approved management plans.	Concessionaires with greater capacities to adequately manage their concessions, duly complying with their commitments established in the concession contracts.	R1. Significantly reduce GHG emissions caused by deforestation and degradation in Brazil nut concessions in Madre de Dios.
	B) Support project partners with the processes of ordering (management) and boundary (demarcation) to ensure compliance with their concession contract requirements and proper management of their areas.	Sanitized, registered, and duly managed areas for adequate forest management. Reduction of overlapping concession conflicts. Ordered Brazil nut cadaster.	Brazil nut management that favors monitoring, control and surveillance of the project area and compliance with the commitments established by law.	
R1. A4. Develop communication strategies around forest conservation and sustainable management, promoting the well-being and development of the community in harmony with the environment.	Carry out communication efforts around conservation through channels such as newsletters, posters, radio announcements and others according to the defined strategy. These strategies may be developed in collaboration with other organizations and/or local authorities if appropriate to strengthen their impact and reach.	Increase the visibility of the Project's objectives and activities. Increase stakeholder (concessionaires and others) awareness and interest around forest conservation, biodiversity, sustainable forestry management, etc.	Stakeholders committed to the conservation of the ecosystems and the sustainable development of the region.	R1. Significantly reduce GHG emissions caused by deforestation and degradation in Brazil nut concessions in Madre de Dios.

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
Community				
R2. A1. Strengthen FEPROCAMD's organizational and executive capacity.	A) Governance: provide support for the establishment and enforcement of the governance structure of the Federation, in accordance with the provisions of its bylaws, to ensure the representativeness of the Brazil nut concessionaires members of the Federation (project partners and non-partners).	Duly registered associations, organized with a valid representative committee and established in accordance with the Federation's by-laws.	Brazil nut sector duly represented in front of the project, authorities at different levels of government, and other stakeholders.	R2. Strengthen the organizational and management capacity of the Federation of Brazil nut producers (FEPROCAMD) and its members to ensure sustainable and integrated management of forest concessions.
	B) Provide the necessary resources and support to ensure the operability and functional structure of FEPROCAMD for the fulfillment of its objectives in favor of its members (project partners and non-partners).	A solid organization duly registered that can efficiently attend to the needs of its members (project partners and non-partners), fulfilling its objective of providing sustainable development for the community and protecting the forests of Madre de Dios. Strengthening the organization that represents all Brazil nut concessionaires, both partners and non-partners, enables channeling resources and efforts towards the conservation of Brazil nut forests (project area + buffer).	The Brazil nut producers' organization has the resources and capabilities to achieve its objectives.	
R3. A1. Support concessionaires in improving their production and commercial capacity with respect to the Brazil nut activity.	Define production and commercial strategies to increase the value of the Brazil nut activity. Implement productive and/or commercial pilots/projects to improve the situation of the Brazil nut sector such as the implementation of a Brazil nut processing plant for BN concessionaires to produce	Higher productive and commercial capacity around the Brazil nut activity that is translated into higher economic income for the Brazil nut families. Concessionaires increase their position in the market, being able to directly produce/trade their	Improve the economic capacity and livelihood of the Brazil nut sector.	R3. Provide commercial and operational support to increase community income generated by the Brazil nut activity.

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
	high quality products around the fruit with a well-defined market, among others. Non-partner concessionaires and other stakeholders may participate in the pilots and initiatives promoted by the project, covering their participation if applicable.	Brazil nut, increasing the value of their products in the market.		
R4. A1. Promote sustainable productive activities around the proper management of forest resources (conservation, reforestation, agroforestry where appropriate) within the Project Area, for generating additional economic means for the community.	Develop productive pilots/projects around the proper management of forest resources such as: the enrichment of the forests with Brazil nut to increase the capacity to generate fruit per hectare within the project for the benefit of the partners; pilots that may involve agroforestry systems for the sustainable production of other forest products, among others. The development of these initiatives may be carried out in collaboration with specialized organizations to increase and ensure their impact and efficiency. Non-partner concessionaires and other stakeholders may participate in the pilots and initiatives promoted by the project, covering their participation if applicable.	Pilot/project(s) developed around sustainable forest management for the facilitation of other sustainable income streams (additional to Brazil nut activity) for the benefit of the community.	Improve the economic capacity and livelihood of the Brazil nut sector, providing access to other sustainable revenue streams different than Brazil nut production.	R4. Contribute to the improvement of community livelihoods by promoting income sources in sustainable forestry activities (conservation, reforestation, agroforestry where appropriate) within the Project Area.
Biodiversity				
R5. A1. Implement a Science Program for permanently evaluate and monitor biodiversity	A) Conduct field expeditions on conservation in the project area, within the strategic framework of the BAM's Science Program. Identify and permanently	Develop a forest inventory of the flora and fauna species that inhabit the project's forests to implement specific conservation strategies,	Favor the conservation of biodiversity in the Project area.	R5. Guarantee and maintain the integrity of biological diversity and ecological processes in the

Activity description	Expected climate, community, and/or biodiversity			Relevance to project's objectives
	Outputs	Outcomes	Impacts	
	(Short term)	(Medium term)	(Long term)	
(flora, fauna) within the Project area.	monitor the value of ecological diversity in the project area. The expeditions may be carried out in collaboration with other organizations (e.g., scientific institutions). B) Involve the Brazil nut community as part of the permanent biodiversity monitoring in the area, providing them with tools and knowledge for the efficient evaluation of their concessions.	especially for those species with some degree of vulnerability. Provide the community with tools and knowledge for biodiversity monitoring in their concessions.	Increase community awareness of the biodiversity of Brazil nut forests, favoring their conservation.	Brazil nut concessions and the wider Project Zone.
R5. A2. Promote biodiversity conservation and prevention on wildlife crimes through communication efforts and training events for project stakeholders.	Conduct training for stakeholders (project partners and others) regarding biodiversity conservation and prevention on wildlife crimes. Conduct awareness initiatives on the importance of biodiversity in the project area and how to deal with potential threats on the matter. These initiatives may be carried out in collaboration with other organizations and / or local authorities.	Training events carried out with the participation of concession partners and other stakeholders in the area, in possible collaboration with authorities and/or specialized organizations. Awareness-raising initiatives regarding biodiversity conservation carried out in spaces or channels such as: radio media, photographic exhibitions, fairs, television spots, etc.	Safeguarding the integrity of biodiversity in the project area. Favor the reduction of cases of illegal commercialization of wild flora and fauna in the project's area of influence.	

Climate Component

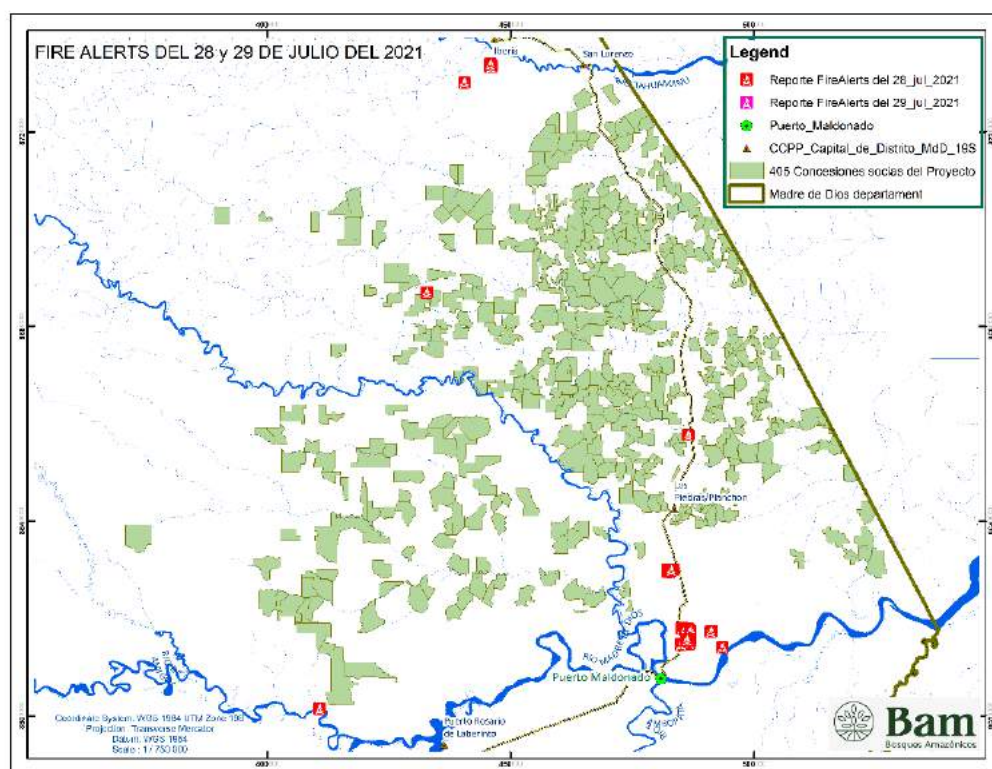
R1: Significantly reduce GHG emissions caused by deforestation and degradation in Brazil nut concessions in Madre de Dios.

- **R1. A1: Implement a holistic monitoring, control, and surveillance system (MCS) (satellite or space-based, technical, legal) to address deforestation threats.**

The project implements a surveillance system based on 3 pillars: satellite monitoring, technical and legal. This system (Figure 2.3) establishes and activates protocols to act quickly and effectively in the face of threats in the area of influence, according to type and degree (See file: Project activities / Monitoring, control, and surveillance system).

- **Satellite monitoring and control:** As part of the satellite system, spatial data from official sources is daily used to identify the dynamism within the Project Zone. As a result, early warnings of hot spots (potential deforestation threats) are identified on a daily basis over the area. The sources are:
 - **GEOBOSQUES:**
<https://geobosques.minam.gob.pe/geobosque/view/moduloalertas/index.php>
 - **NASA:** https://firms.modaps.eosdis.nasa.gov/active_fire/

Map 2.10. Fire alerts



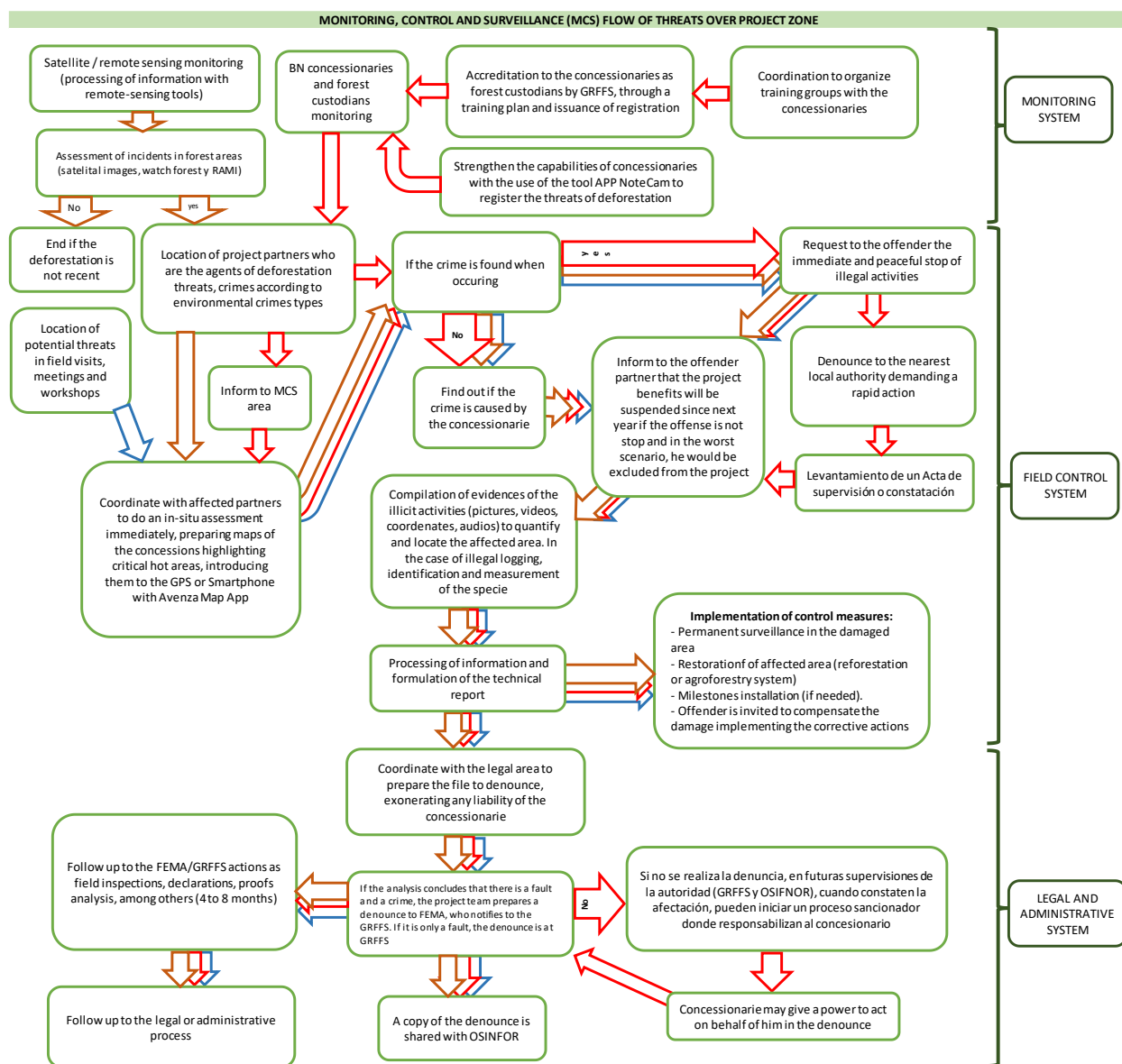
Source: GEOBOSQUES. In-house elaboration.

- **Technical monitoring and control:** with the information provided by the satellite or remote pillar and with the information gathered from the permanent visits to the different project areas, the field technical team activate response protocols depending on the type of environmental crime(s) occurred (Figure 2.3). The response includes a combination of field inspections, patrolling and legal advisory. For attending concessionaires, the technical expert team goes to the concessions or project areas affected/potentially affected to advise the partners in the process, collecting evidence and making the necessary reports to file the respective complaints to the competent authorities. For accomplishing their tasks properly, the technical team is duly equipped with cameras, GPS, drones, etc.

Concession holders (partners of the project) are also incorporated as part of the monitoring system. The Project's technical team provides assistance to the community, among others, in the use of cell phone applications (Apps) that serve as an important tool for concessionaires, who, through the use of these technologies, can report in real time any threat or situation within their areas, to be immediately attended to by the Project's technical and legal team. Tools such as the Note Cam app are used to take photos with coordinates and gather evidence of deforestation crimes to serve as evidence when filing complaints. Regular training is given regarding the functioning of the monitoring control and surveillance system and the use of technologies for monitoring the area.

- **Legal monitoring and control:** the system is accompanied by the legal structure, where, once the information has been collected, the project's technical and legal team accompanies the concession partners in the process of filing complaints with the competent authorities, following up on the cases until they are completed.

Figure 2.3. Monitoring, Control, and Surveillance flow of threats over Project Zone



In-house elaboration.

In order to have a stronger and more articulated response capacity to threats of deforestation or degradation, the project seeks the support of the competent institutions to ensure the timely, adequate, and legitimate resolution of cases. Working with authorities such as the Regional Government, the Forestry Directorate, FEMA's regional office, OSINFOR, district municipalities, etc., is promoted by the project.

It is important to highlight that the control, monitoring and surveillance system applies to the entire project zone, i.e., concessions that are part of the project and those that are not, other forested areas of agricultural land, etc., since it is essential to avoid any type of threat throughout the territory in order to prevent any possible entry into the project area. It is therefore intended to minimize any risk of leakage and damage to the project area.

- **R1. A2: Provide continuous training to project stakeholders in sustainable forest management (concession management; concession monitoring and control; sustainable productive activities), and other related topics of interest focused on the adequate development of the community and maintenance of the forest.**

The Project provides permanent training to stakeholders, mainly to concession holders who are part of the project zone (project and non-project concession members) and other stakeholders, in order to promote conservation and sustainable forest management in the project's area of influence. Training is provided regularly in main topics such as:

- **Monitoring control and surveillance:** training on control, monitoring and surveillance in the area focuses on explaining stakeholders about the operation processes and protocols of the MCS system and concessionaires' roles, responsibilities, and reaction protocols to prevent deforestation threats. For example, training concessionaires in the use of applications that allow them to immediately report any type of threat in the area.
- **Sustainable management of the concessions:** training is provided regarding the legal conditions to adequately manage the concessions in accordance with the commitments established with the Peruvian state. For example, training is provided in the preparation of management plans and reports for the sustainable use of ecosystem resources, etc. Likewise, training is provided regarding the functioning of authority structure, requirements, and processes (of each regulatory apparatus) in order to ensure the compliance with law.
- **Sustainable forestry activities:** the project also organizes and promotes workshops for fostering the development of sustainable economic activities that seeks community benefit and biodiversity conservation.
- **Leadership and concession succession:** workshops are also proposed, so that the conservation commitment is sustainable over time, passed from one generation to the next.

As part of the project strategy, alliances and cooperation agreements are sought with competent authorities, for them to be involved / participate in stakeholder trainings. Trainings, when applicable, are given not only to the concession holders who are members of the project but also to the concession holders who are not yet part of the project as well as to other stakeholders of interest to continue mitigating the threats of deforestation in the total project zone, minimizing the risks of leakage / deforestation.

- **R1. A3: Support concessionaires in the preparation and presentation of their management documents required in accordance with the commitments assumed in the concession contracts (annual management plans), seeking to ensure reporting and compliance. Also, provide technical support to concessionaires regarding the management of their forests.**

The project's team includes individuals with technical and legal capabilities to provide concessionaires with support to managing their areas in accordance with their concession contracts. Among others, the team provides support to project partners in the development and presentation of annual documents (management plans) for the use of ecosystem resources that must be submitted to authorities in accordance with their concession contracts (requirements and permits in concessions stipulated by law).

Furthermore, as part of the project activities, support to concessionaires in the processes of demarcation and management of concessions is proposed. The purpose is to ensure the correct reorganization of the concessions in order to manage them optimally and in accordance with the requirements and considerations framed in the concession contract with the Peruvian State.

- **Demarcation:** for the correct demarcation of the areas (concessions), avoiding overlapping with other types of properties or land ownership. This ensures the optimal sanitation of the areas and their corresponding registration with the competent authorities.
- **Management (“Ordenamiento”):** for the periodic inventory of the forest species found in each concession, to ensure sustainable management of the areas. That is, to carrying out a complete inventory of the typology and quantity of forest species in the area. In this manner, a control and registry can be kept for the optimal conservation of the forests, as required by law.

▪ **R1. A4: Develop communication campaigns on forest conservation and the sustainable use of its resources, in order to promote sustainable development in harmony with the environment among project stakeholders.**

Execute annual campaign(s) through channels such as newsletters, radio, and others (at least one per year). These campaign(s) can be developed in collaboration with other organizations and/or local authorities if convenient to strengthen its impact and reach.

Community Component

R2: Strengthen the organizational and management capacity of the Federation and its members to ensure the sustainable and integrated management of forest concessions.

- **R2. A1: Strengthen FEPROCAMD’s organizational and executive capacity.**

Firstly, the project seeks to ensure that the organization (FEPROCAMD) is duly registered in public records and that it acts in accordance with its bylaws, among other things, to guarantee that its representativeness (directors, presidents, etc.) are current and updated according to the regulations of its constitution, ensuring adequate representativeness of the concessionaires families (project partners and non-partners) and work in favor of their welfare.

Secondly, the project seeks to support the federation in the maintenance of its regular operations, providing economic support for its organic life as an organization, with the purpose of enabling it to implement the different activities stipulated in its statutes for the benefit of the Brazil nut community.

It is important to note that, at the beginning of the project BAM helped the Brazil nut forest concessionaires to group into 11 different associations and helped them consolidate the FEPROCAMD. Their strengthening as an organization allowed them to have an important voice in the agricultural and environmental sector of the country, giving them a space before the competent regional and national authorities. In this way, FEPROCAMD has become, to this day, the most relevant vehicle to make known the position of hundreds of concessionaire families in Madre de Dios. Moreover, it has become a fundamental organization for sustainable growth and avoiding deforestation in the region. To date, FEPROCAMD is legally constituted and duly registered in the public registry, and it is governed according to its approved bylaws.

The principal functions of the Federation (as foundation by-laws) are:

- To integrate needs, requirements, and initiatives of its member associations, in order to contribute to economic, social and cultural development of individuals and families engaged in the extraction, collection, transformation and commercialization of Brazil nut in the Madre de Dios region.
- To protect the interests of its member Associations, defend their rights and support their actions before the political, administrative, and judicial authorities.
- Raise awareness among BN concessionaires, regarding the appropriate and sustainable use of natural resources and the importance of conservation.
- Promote the regularization, updating and enforcement of concession owners' contracts with the Peruvian State, advocating for the signing and enforcement of concession contracts and commitments, overcoming overlaps with agricultural producers, loggers and other forest product concessionaires.
- Promote better practices for the collection, drying, handling, and transformation of Brazil nut, assimilating new technologies, encouraging permanent training and promoting the use of modern machinery and equipment.
- Promote the conservation and repopulation of the Brazil nut forests, fighting logging and preventing forest fires, as well as the protection and defence of the local Brazil nut producer against illegal Brazil nut imports and price concentration.

Hence, the correct organization of concessionaires in FEPROCAMD is vital to: strengthen community role in front of local authorities and stakeholders, raising awareness of their position as a fundamental organization for the conservation of forests and the region's sustainable development; strengthen their capacity to generate productive value chains around sustainable forest management, in particular, their productive and commercial capacity for the development of the Brazil nut activity; strengthen their capacity to react to possible deforestation threats or events in their concessions; among others. Strengthening the organization that represents all Brazil nut concessionaires, both partners and non-partners, enables channelling resources and efforts towards the conservation of Brazil nut forests in the Project Zone.

R3: Provide commercial and operational support to increase income generated by the Brazil nut activity.

▪ **R3. A1. Support concessionaires in improving their production and commercial capacity with respect to the Brazil nut activity.**

The project seeks to provide support to partner concessionaires to enhance their productive and commercial capacity related to the Brazil nut activity, so that they can improve their economic situation and that of their families. In this way, the project seeks to entrust the specialist(s) of its team with the responsibility of structuring strategies and actions that will lead the concessionaires to improve their income flows around the Brazil nut activity, initiatives such as (but not limited to):

- **Productive strategies:** improvements in tree productivity, efficiencies in product collection and transportation, etc.

- **Commercial strategies:** export of products to international customers, direct sales to end customers (without intermediaries); development of value-added products, international certifications to ensure traceability and high quality of products in the market, etc.

Furthermore, the project seeks to implement a Brazil nut plant to allow concessionaires directly produce/process their product in their own facilities, giving them the possibility to reach buyers directly (not depending on intermediaries) in order to improve the average price of Brazil nuts and gain market position.

It is important to mention that non-partner concessionaires and other stakeholders may participate in the pilots and initiatives promoted by the project, covering their participation if applicable.

R4: Contribute to improving community livelihood by fostering income streams in sustainable forestry activities (conservation, reforestation, agroforestry when applicable) within the Project Zone.

- **R4 A1. Promote sustainable productive activities around the proper management of forest resources (conservation, reforestation, agroforestry where appropriate) within the Project Area, for generating additional economic means for the community.**

The project seeks to designate specialists as part of its team to structure strategies and actions that will lead concessionaires to improve their income flows through the development of productive activities related to sustainable forest management. In this line, the designated team: identifies development opportunities; performs the corresponding feasibility analyses; promotes strategic alliances with technical, financial or other organizations to carry out the initiative; determines the implementation phases for initial pilots; determines the large-scale implementation phases based on the results of the pilots; monitors the results and makes the corresponding adjustments to ensure the impact of the initiatives. Such initiatives may include, for example, reforestation systems, agroforestry systems, use of non-timber forest resources, among others. It is important to mention that non-partner concessionaires and other stakeholders may participate in the pilots and initiatives promoted by the project, covering their participation if applicable.

Biodiversity Component

R5. Guarantee and maintain the integrity of biological diversity and ecological processes in the Brazil nut concessions and the wider Project Zone.

- **R5. A1. Implement a Science Program for permanently evaluate and monitor biodiversity (flora, fauna) within the Project area.**

The project seeks to implement a Scientific Program with the aim of bringing together experts from leading institutions in the main branches of zoology and botany to conduct permanent inventories of biological diversity and assess the value and importance of the natural communities and wildlife species present in the areas of influence. The purpose is to conduct permanent assessments that provide insight into the health of the forests where Brazil nuts grow and determine their composition and richness, estimating their diversity of flora and fauna and identifying the main species according to their conservation status, which allows establishing a zoning that ensures wildlife preservation and sustainable forest management. Activities part of the Science program may include continuous

inventories of biological diversity within the area, monitoring of HCV areas, installation of camera traps for biodiversity documentation, among others.

To reinforce the impact of the scientific program, cooperation agreements with prestigious scientific institutions will be encouraged to implement the activities, guaranteeing the accuracy of the data, and promoting high-level scientific research in the project area and region.

▪ **R5. A2. Promote biodiversity conservation and prevention on wildlife crimes through communication campaigns and training events for project stakeholders.**

In order to prevent threats in the area with respect to biodiversity, specifically the control of wildlife crime within Brazil nut forests, the project proposes to develop both training events and communication initiatives related to the subject and, if deemed appropriate, will carry out these efforts in cooperation with other organizations and/or authorities to reinforce and expand the reach of the messages. Communication efforts may be disseminated, among others, through television, radio, print, press, events, fairs, social networks, among others.

2.1.9 Climate, Biodiversity and Community Benefits Assessment Period (G1.9)

The Project start date is September 24th, 2009. The accreditation period starts on January 01st, 2010 and has a lifespan of 31 years, ending on December 31st, 2040. During this period, project activities will be implemented.

2.1.10 Differences in Assessment Periods (G1.9)

No differences in assessment periods are planned.

2.1.11 Implementation Schedule (G1.9)

Table 2.16. Implementation Schedule

Date	Milestone(s) in the project's development and implementation
14/07/2009	Beginning of the engagement and socialization process: meetings and workshops with the community on the opportunity to develop a conservation REDD project.
16/08/2009	Exchange of experiences and visit of community leaders to BAM's property in Ucayali, where the company has its reforestation project with native species.
12/09/2009	Technical and legal support for the constitution and consolidation of the Federation, FEPROCAMD, and its bases.
24/09/2009	Signing of the agreement between BAM and FEPROCAMD for the development of the REDD project.
13/06/2012	Validation of REDD Project in Brazil Nut Concessions in Madre de Dios is under the VCS standard.
14/11/2013	First VCS Verification (Vintage 2010-2012).
14/01/2014	CCB Validation (gold label).
13/10/2020	Second VCS Verification (Vintage 2013-2014, 2015-2016).

Date	Milestone(s) in the project's development and implementation
21/12/2020	First delivery of economic benefits to project partners as a result of the profits generated by the project, after covering the activities aimed at curbing deforestation and meeting CCB objectives.
24/06/2021	Strengthening of the monitoring, control and surveillance system by using satellite data to analyze the dynamics of the area: daily early warning reports (fire alerts).
19/11/2021	Initiation of the development of productive projects to increase the economic capacity of concession holders in sustainable forest management activities.
19/11/2021	Start of the conceptualization and socialization of 3 projects: agroforestry systems, Brazil nut certification, and sustainable management of aguaje (<i>Mauritia flexuosa</i> fruit).
16/06/2022	Start of the agroforestry systems and reforestation project in collaboration with IIAP.
27/06/2022	Start of the organic Brazil nut certification project
25/07/2022	Delivery of profits to partners from the commercialization of carbon credits generated by the project (post investment of project activities).
02/09/2022	Training workshop series on sustainable palm harvesting as a complementary activity begins
28/03/2022	VCS Verification Vintage 2017, 2018, 2019.
04/03/2022	Biodiversity expedition as part of BAM's Science Program, an independent program that seeks to permanently evaluate the ecological value and importance of the ecosystems located in the project's areas of influence, in collaboration with Museo de Historia Natural de la UNMSM.
28/06/2022	VCS Verification Vintage 2020
06/06/2023	organic certification of the first production project
09/07/2023	Launching of the Brazil nut concessions scholarship program

2.1.12 Risks to the Project (G1.10)

Table 2.17. The Project Risks Table

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Possible entries into concessions (invasions) by third parties to develop (illegal) activities that involve land use change or forest degradation.	GHG emissions and biodiversity loss: alternative economic activities (often informal and illegal, such as illegal logging and agriculture) could pose a risk of deforestation within the project area. Indeed, this is one of the main risks of deforestation for the	- Monitoring Control and Surveillance System: the project proposes a comprehensive monitoring, control and surveillance system based on spatial analysis of the area (satellite monitoring), as well as technical and legal support from experts for the correct identification and control of

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	project, triggered by the urbanization in Madre de Dios as a result of the construction of the Interoceanic highway at the end of 2009/beginning of 2010. When activities involving deforestation/degradation are more profitable than those around conservation and sustainable forest management, they become a major agent of deforestation in the project area, as people enter the forests to develop livelihood alternatives for themselves and their families.	deforestation threats in the project area. - Collaboration agreements: the project seeks to establish collaboration agreements and rely on local and national authorities to strengthen their capacity to react to deforestation threats: prevent or mitigate possible invasions by informal loggers, miners or other environmental crimes affecting the concessions. - Training: the project includes ongoing training of stakeholders (project partners and non-partners) in sustainable forest management, including authorities' procedures for the prosecution and sanctioning of environmental crimes. - Concession demarcation: the project proposes technical support to concessionaires for the correct demarcation of their areas, in order to favor better monitoring and control of the forests. - Promotion of sustainable activities related to the conservation and sustainable use of forest resources: the project proposes to support concession holders to increase their economic capacity in the development of environmentally friendly activities. On the one hand, improving the concessionaires' capacity in the production and commercialization of Brazil nut activities and, on the other hand, in the development of sustainable productive pilots (e.g.,

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
		reforestation, agroforestry systems, etc.).
Risk arising from activities developed in mining concessions	GHG emissions and biodiversity loss: in line with the above, activities such as informal gold mining (which are highly profitable in the short term) could distort the local economy and intensify deforestation risks in certain parts of the project, specifically those near the mining areas in the south of the region.	- Monitoring Control and Surveillance System: as part of the project's monitoring, control and surveillance system, the areas where there is a possible impact of mining activities are monitored daily (satellite system). In addition, the project's technical team seeks to carry out periodic expeditions to these areas in order to identify any deforestation or threats. Given the possible risks associated with mining activities, the project seeks to consolidate cooperation alliances with local authorities, e.g., the Environmental Management Prosecutor's Office (FEMA), to strengthen the control of deforestation in these areas. - Concession demarcation: The project proposes technical support to concessionaires for the correct demarcation of their areas, to favor better monitoring and control of the forests.
Forest Fires (low to moderate risk)	GHG emissions and biodiversity loss: Despite being a low risk, fires may occur in Madre de Dios due to the local custom of clearing the forests with fire, which could lead to leaks in the project area causing deforestation (emissions) and loss of biodiversity and wildlife.	- Monitoring Control and Surveillance System: the project's monitoring, control and surveillance program includes a satellite pillar that analyzes the spatial dynamics in the Project Zone, using data from sources such as GEOBOSQUES to report daily alerts of hot spots or fires within the area. - Training and organization at community-level is key in the attempt to prevent the negative impacts of burning. As part of the ongoing training provided by the project, the aim is to train the

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
		general community in sustainable forest management, including how to react to possible fires. As part of the training program, the project seeks to work with experts and competent authorities in each specific area. For example, in the area of fire control, we will seek to work with INDECI (Institute of Civil Defense).
Lack of capacities and tools for concessionaires to properly manage their areas.	GHG emissions and biodiversity loss: The lack of understanding by concession holders of the requirements of concession management stipulated by law, the lack of tools to carry out the necessary processes to ensure the correct management of concessions (e.g. sanitation of the areas), the lack of understanding of the consequences of non-compliance with concession management, the lack of technology to properly monitor the areas and the lack of support to address threats, can mean a significant risk of deforestation and loss of biodiversity, as well as an impediment to the sustainable development of the community.	- Training: the project includes ongoing training of stakeholders (project partners and non-partners) in sustainable forest management, including authorities' procedures for the prosecution and sanctioning of environmental crimes. - Concession demarcation: the project proposes technical support to concessionaires for the correct demarcation of their areas, in order to favor better monitoring and control of the forests. - Monitoring Control and Surveillance System: the project proposes a comprehensive monitoring, control and surveillance system based on spatial analysis of the area (satellite monitoring), as well as technical and legal support from experts for the correct identification and control of deforestation threats in the project area.
Social risk in the context of (possible) lack of commitment and/or understanding towards the project by project participants.	GHG emissions and biodiversity loss: A lack of understanding of the conservation commitments framed in both the REDD+ project commitments and those assumed in the concession contracts could mean an increase in deforestation	- Ongoing communication and training: Although the community is committed to the project, the rural population may have an incipient knowledge of how the REDD mechanism and carbon markets work in detail, which could generate a priori resistance to the

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	and forest degradation. This can be further intensified if there is no understanding and commitment that is passed from generation to generation, in the case of natural successions of concessions.	mechanism and, therefore, to the implementation of conservation measures. In this sense, one of the constant tasks of the project is to communicate and reinforce the understanding of REDD, its benefits, commitments and challenges to the community, in a simple and didactic way to facilitate their understanding. For this reason, the project seeks to reinforce key REDD concepts in training workshops and community events, as well as in other types of communication materials and tools such as posters, billboards, etc. It is important to mention that these workshops and efforts are given not only to the concessionaires (direct beneficiaries) but also to their families and the community, in order to broaden the understanding of the REDD mechanism, favoring their overall engagement. Leadership and concession succession workshops are also proposed, so that the conservation commitment is sustainable over time, passed from one generation to the next.
Population increase (migration) that could lead to urbanization and implementation of other types of construction projects in the project area (such as the interoceanic highway).	GHG emissions and biodiversity loss: Development/urbanization can generate pressure on forests if there is no proper management and control of the areas.	- Institutional strengthening: The project strengthens the organizational capacities of Brazil nut concessionaires through the FEPROCAMD so that it becomes an agent promoting sustainable development in the region and can convey and defend the interests of Brazil nut concessionaires (partners and non-partners of the project) in the face of potential external risks. - Monitoring, control and surveillance system: In addition to the aforementioned system, it is

Identify Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
		important to reinforce the cooperation that the project seeks with local authorities and other interested organizations whose mission is to safeguard the integrity of the forests and their biodiversity, so that environmental interests take precedence over possible constructions within the project's area of influence.
Risk due to lack of governance in FEPROCAMD and its associations for the proper representation of its members.	Lack of representation of the concessionaires and lack of FEPROCAMD's operational capacity to fulfill its objective for the benefit of the member concessionaires: if FEPROCAMD is not properly constituted and updated according to its statutes and/or does not have the necessary resources to carry out its operations in order to develop activities for the benefit of the Brazil nut community, this could represent a significant risk in the sense of being a brake on the sustainable development of the community, the region and an impediment to the proper management of the forests.	- The project provides support for the establishment and enforcement of the governance structure of the Federation, in accordance with the provisions of its bylaws, to ensure the representativeness of the Brazil nut concessionaires members of the Federation. - The project proposes to provide the necessary resources and support to ensure the operability and functional structure of FEPROCAMD for the fulfillment of its objectives in favor of its members.

2.1.13 Benefit Permanence (G1.11)

The project is designed to ensure positive impact in the long term. Essentially, the project seeks to: increase the financial capacity of the concessionaire community around the conservation and sustainable management of the forest, ensuring the adequate use of forest resources and minimizing the risks of deforestation (change of use) and degradation in the area.

↑ Brazil nut valuation + sustainable forest management → ↓ Deforestation rate → ↑ Biodiversity conservation

(Community benefit) / (Climate benefit) / (Biodiversity benefit)

In this regard, the project seeks to increase the economic capacity of the concessionaires, for example, by implementing activities and strategies such as: R3. A1. Support concessionaires in improving their production and commercial capacity with respect to the Brazil nut activity; R4 A1.

Promote sustainable productive activities around the proper management of forest resources (conservation, reforestation, agroforestry where appropriate) within the Project Area, for generating additional economic means for the community. Through a participatory and economically productive approach, the project seeks that the community finds value for the development of their families in the conservation and sustainable management of the forest. In this manner, REDD+ Brazil-nut concessions seeks to invest in initiatives that promote the development and well-being of families in the long term, carrying out projects that provide a better quality of life for them and future generations,

In addition, the project seeks to increase the capacities and knowledge of the community regarding the appropriate use of forest resources and respect for its biodiversity, (e.g. R1. A2: Provide continuous training to project stakeholders in sustainable forest management), by implementing training spaces to develop the topics of interest, so that these behaviours become part of the regular habits and capacities of the population in the long term.

In the same way, the project seeks to incorporate the community itself into its monitoring, control and surveillance system, in order to build capacities that will allow concessionaires to better control and manage their concessions on a permanent basis. The same applies to technical advice for the proper management of the concessions, instructing the concessionaires themselves to document and report their activities and to exercise them in accordance with the law.

Furthermore, the promotion of knowledge around the biodiversity found in the area (Science Program) in collaboration with independent scientific organizations of great prestige allows the understanding and awareness regarding the ecological value found in the Peruvian Amazon ecosystems (diversity of flora, fauna, etc.), specifically around unique Brazil nut forests, transcend the limits of the Project area, promoting understanding with respect to our ecosystems, vulnerable species, and the value of conservation.

2.1.14 Financial Sustainability (G1.12)

The company's audited Financial Statements are public and will be shared with the auditors and VERRA during the verification process, as well as all commercially sensitive information (Section 2.4.7).

The financial health of the project developer, which ensures compliance with REDD+ Brazil nut concessions activities in its three areas of action (climate, community, and biodiversity), is supported by the following elements:

Real assets: BAM has a private property of 24,544 hectares in Ucayali, Peru, and a forest plantation (biological asset) of +1,200 hectares which backs its operations as real assets.

Short-term income streams: The Project has been verified three times (periods 2010 to 2020). By selling carbon credits in an increasingly consolidated market, the project expects to have sufficient revenues to ensure financial sustainability to implement activities to meet project objectives. Throughout its years of operation, BAM has consolidated a portfolio of clients that includes the most important actors in the market, achieving an important positioning worldwide. A list of the clients that have purchased carbon credits generated by the Project and examples of the latest transactions will be shared with the auditor.

Long-term flows: BAM manages a commercial plantation for more than 12 years, which has begun to be sustainably harvest. The commercial species of the BAM plantation, mainly marupa and shihuahuaco, are forest species with an excellent market price, which ensures an additional revenue stream for the company.

Capital Markets: BAM is the first forestry company in Peru to enter the Lima Stock Exchange, successfully placing thematic debt instruments (green/sustainable) in the market. In 2021 alone, BAM placed around US\$ 17 million in the capital market, fulfilling all its financial responsibilities, and maintaining an excellent relationship with its investors. Likewise, BAM is the first company in LATAM to certify a green debt instrument under the Climate Bonds Standard of the Climate Bonds Initiative (CBI). The company and its financial health are supervised by the Superintendence of the Securities Market, a decentralized public body attached to Peru's Ministry of Economy and Finance.

2.1.15 Eligibility Criteria for Grouped Projects (G1.14)

As a grouped project, new concessions with similar characteristics can be incorporated into the project over time. The basic requirement to participate in the project is to be forest concessionaire, especially of a Non-Timber Forest Products (for Brazil nuts) in the region of Madre de Dios.

Within the universe of Brazil nut concessions (which are more than 1000 concessions), 405 have been formally incorporated to the project so far. The goal is to incorporate new concessions (concessionaire families) into the project to generate the greatest possible impact for the community and the protection of forest. The following criteria will be assessed for accepting a new project member:

- Knowledge and acceptance of conditions of the long-term agreement between the FEPROCAMD and BAM.
- Signing the standard contract with FEPROCAMD for participating in the project and transferring carbon results.
- Not having signed any other agreement that involves the trading of GHG emissions reductions originating in the area that will be incorporated into the project.
- To be a holder of a Non-timber Forest Products concession contract in force with the Peruvian state and be up to date with the official requirements to manage it (i.e., Forest Management Plan).
- Take the compromise to participate in implementation of project activities and make all efforts to ensure the permanence of the emission reductions results.

Comply with the applicability conditions of the standard and methodology.

2.1.16 Scalability Limits for the Grouped Projects (G1.15)

The current grouped project only may scale up to other NTFP concessions in Madre de Dios. The project may not include other types of concessions or land tenure types in Madre de Dios, nor other NTFP in other jurisdictions in the Peruvian Amazon or other neighboring countries in the Amazon basin.

2.1.17 Risk Mitigation Approach for Grouped Projects (G1.15)

In Madre de Dios, forest areas have been already allocated to different land tenants, including NTFP concessions, associated with Brazil nut harvesting and rubber harvesting. It covers around 1.2 million hectares, this is, around 4 times the current project area joined so far. In that sense, there is no risk that the project expands beyond those limits.

2.2 Without-project Land Use Scenario and Additionality

2.2.1 Land-Use Scenarios without the Project (G2.1)

Alternative Scenarios

The range of potential land use scenarios and the associated drivers of land use changes most likely to occur within the project zone in the absence of the project are the following:

- Scenario 1: Brazil nut activity continues to develop with technical and economic shortcomings (traditional artisan methods and selling in local markets with low added value): concessionaires are deficient in fulfilling their concession contracts and cannot prevent deforestation, illegal logging or encroachment into their areas; the activity continues under artisanal methods, selling in local markets with no added value. – (Artisanal Brazil Nut Activity with Low Added Value).
- Scenario 2: The inefficiency and scarce or non-existent profitability of non-timber forest products (BN) use and conservation of forests generates a progressive land transition from forest cover to non-forest cover associated to agrarian activities and, in minor grade, to urbanization processes – (Alternative Land Use Activities).

Artisanal Brazil Nut Activity with Low Added Value (Scenario 1)

Revenues in this scenario are generated from the Brazil nut²⁶ activity with low added value²⁷ and timber harvesting in small scale.

The Brazil Nut producers harvest an average of 136 Brazil nut barrels per year. To ensure the supply of nuts, private companies apply the common practice of giving “Habilitos” (pre-payment for future harvest) to the concessionaires who invest this working capital for the collection of the Brazil Nut during the “Zafra” (collecting season). Through this practice, concessionaires have low cost-effectiveness in terms of TIR, due to limited self-investment (although sometimes profit in nominal terms remains of subsistence). The average net income estimated is S/.10 339 a year.

The small-scale logging activity within Brazil nut concession is usually performed by an agreement between the concessionaire and a logger, corresponding to 50% of the concessionaires' profit. The scenario assumes an annual average of 206m³ of wood (determined of the extraction balances), with average revenue and cost of S/.357 and S/.230 per cubic meter (m³) respectively.

²⁶ Information obtained from “La cadena de valor de la castaña amazónica”, Corporate Author: Comité Técnico Multisectorial de la Castaña - 2006.

²⁷ The low value added of Brazil nuts activity refers to the lack of harvesting techniques and international certifications that allow better prices in the market.

Alternative Land Use Activities (Scenario 2 or Baseline):

Revenues in this scenario are generated by livestock and agriculture activities²⁸, and, additionally, in the remaining areas of the forest, Brazil nut collection and timber harvest at small scale (keeping both the cases described above).

The agricultural activity corresponds to corn production, carried out by small farmers through slash-and-burn forest clearing. Average corn productivity is estimated at 1.014 kg per hectare, a low yield compared to the national average of 3.962 kg/ha²⁹. For livestock, the maximum meat productivity considered is 45 kg per hectare of pasture. Livestock profitability, especially near Puerto Maldonado and Las Piedras (very close to the proposed Project Zone), reaches a maximum value of \$ 140/ha/year, and decreases the further away from the city center or Interoceanic highway. This scenario considers an average profitability of the two activities, agricultural and livestock operations, of S/.192.5 per hectare.

This analysis works with an average of 800 hectares³⁰ per concessionaire, and an annual historical deforestation rate of 1.04%.

2.2.2 Most-Likely Scenario Justification (G2.1)

The most likely scenario is “Alternative Land Use Activities – Scenario 2”. The justification of this scenario is described below:

In addition to the threats posed to the zone and Project Area described above (low productivity and profitability around sustainable forest management), at the moment of the design and elaboration of the project baseline there were additional legal and regulatory threats that pose a “without-project” scenario with real and quantifiable deforestation hazards such as: the zoning process (ZEE) and its regional ordinance; the mining ordinance and emergency decree; the Biofuels Promotion law, and the natural potential for these crops in Madre de Dios, among others. The following describes the laws and regulations that support the Baseline scenario proposed:

Law of Forestry and Wildlife N° 27308³¹

Whose Title 1, Article 7, designates as national resources all forest resources and land whose main use would be the forest, either with or without forest cover. It states that the land cannot be used in activities affecting the vegetation, such as agriculture and livestock, unless permitted by law for specific cases (not described).

It also says that the only way to access forest resources (not to land per se) is through the award of a concession, according to its various modalities (forest, ecotourism, reforestation, etc...). The granted period can be 40 years and the concessionaire is asked to develop a sustainable management of given resources, justified by management plans. Otherwise, the concessionaire would be penalized or even lose the concession contract.

²⁸ Information obtained from “Strategies for Conservation along the Interoceanic Highway in Madre de Dios, Peru: A spatial economic analysis” prepared by GRADE, March 2010.

²⁹ Ministry of Agriculture - DGIA, 2008.

³⁰ Real evidence of Brazil nuts concessionaires’ database from Bosques Amazónicos SAC

³¹ Law No. 27308.- Forest and Wildlife Law. <https://sinia.minam.gob.pe/normas/ley-forestal-fauna-silvestre-0#:~:text=La%20presente%20ley%20tiene%20por,social%2C%20econ%C3%B3mico%20y%20ambiental%20de>

In the contract between the grantee and the State, a clause states the inheritance rights of the holder of the concession to his heirs if he dies first. Thus, the term of the concession is honored and the risk that the areas granted are returned to the state before its due course and without effective protection is limited in this way.

In addition, Title V, Article 27 prohibits burning the forest, which is the initial step for other activities.

Organization for the Formalization of Informal Property (COFOPRI)

Despite the existence of the Forest Law, COFOPRI, which is a government entity, legalizes land ownership in rural forested areas (which belong to the state) if simple possession can be evidenced³²:

- Having a direct, continuous, peaceful and public use of the area for over 5 years, in the case of private property, and for more than one year if it is state property
- The property must be exploited economically (agriculture) as many years as the period of possession.

There is nothing specified over intangible land; leaving open the possibility for any individual to take possession of forest areas, productive or protected with a high biological value, only to carry out "economic exploitation".

In fact, this system is very old and is the result of prior government policies that promoted the "colonization" of the Peruvian Amazon, since it is considered (and still is considered by many) as an "empty space" and "unproductive", favoring thus the change of land use.

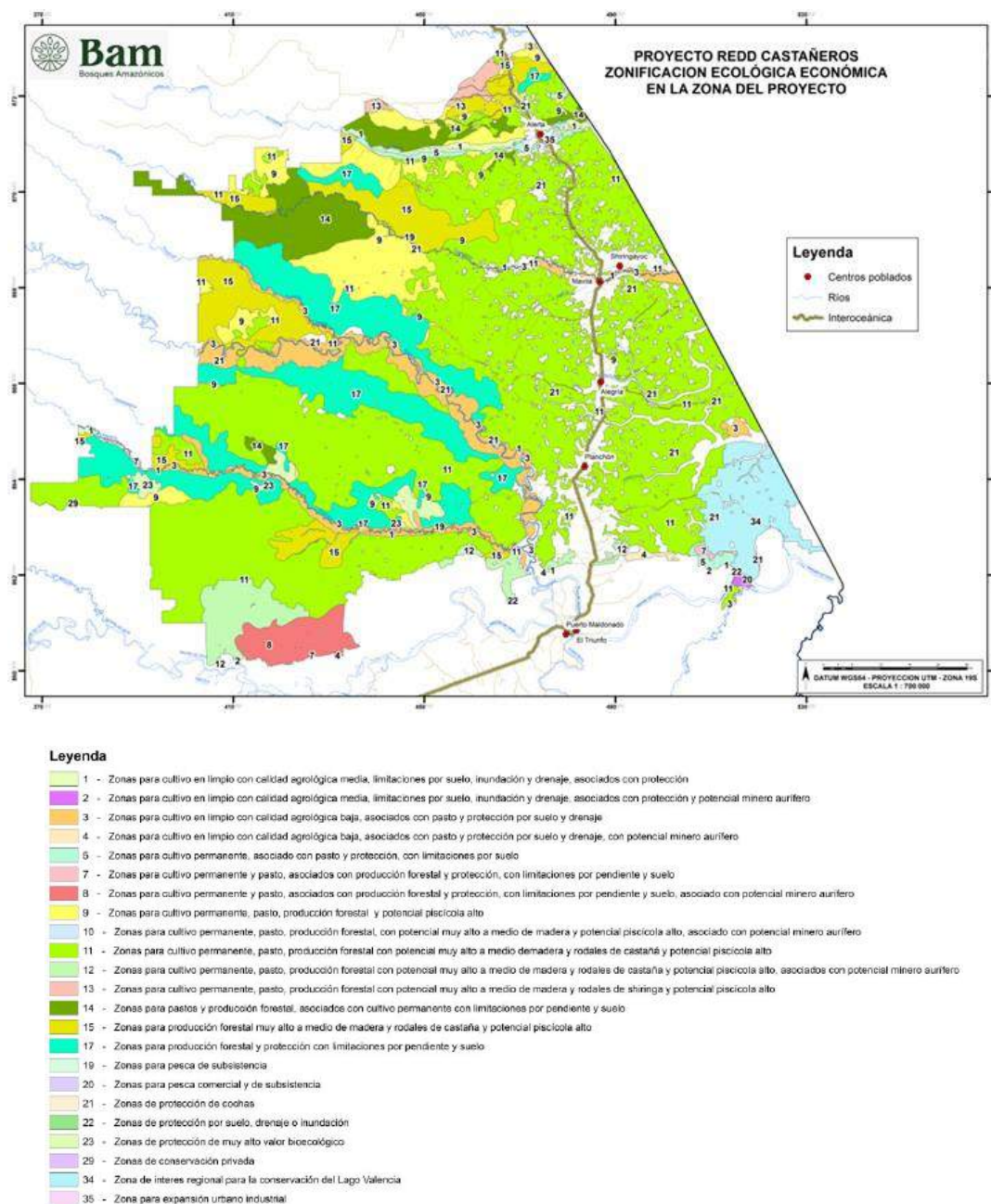
Ecological Economic Zoning: Regional Ordinance N° 032-2009-GRMDD-CR³³

Many classes of ZEE grouped together with forestry, agricultural crops and pastures with or without usage limitations, and even denote mining potential. An example of this is the class for permanent crop areas, pastures, forest production with very high potential to medium of wood and stands of Brazil nut, and fish high potential, which occupies 51% of the zone. Although it is true the contemplated activities are not necessarily opposite, when performed under agroforestry techniques, agro-silvo-pastures, etc., do involve forest clearing in different degrees. By containing activities with different land use, the arrangement opens the possibility deforestation. The following map below illustrates the uses proposed by the ZEE proposals in the Project Area.

³² Taken from the Distribution Document of COFOPRI: Formalization of Rural Lands. Available in :www.cofopri.gob.pe

³³ Regional Ordinance: <https://sinia.minam.gob.pe/normas/aprueban-estudio-zonificacion-ecologica-economica-departamento-madre-dios>

Map 2.11. Ecological Economic Zone in the Project Area



Source: IIAP (2009).

Mining Planning: Emergency Decree N° 012-2010 MINAM³⁴

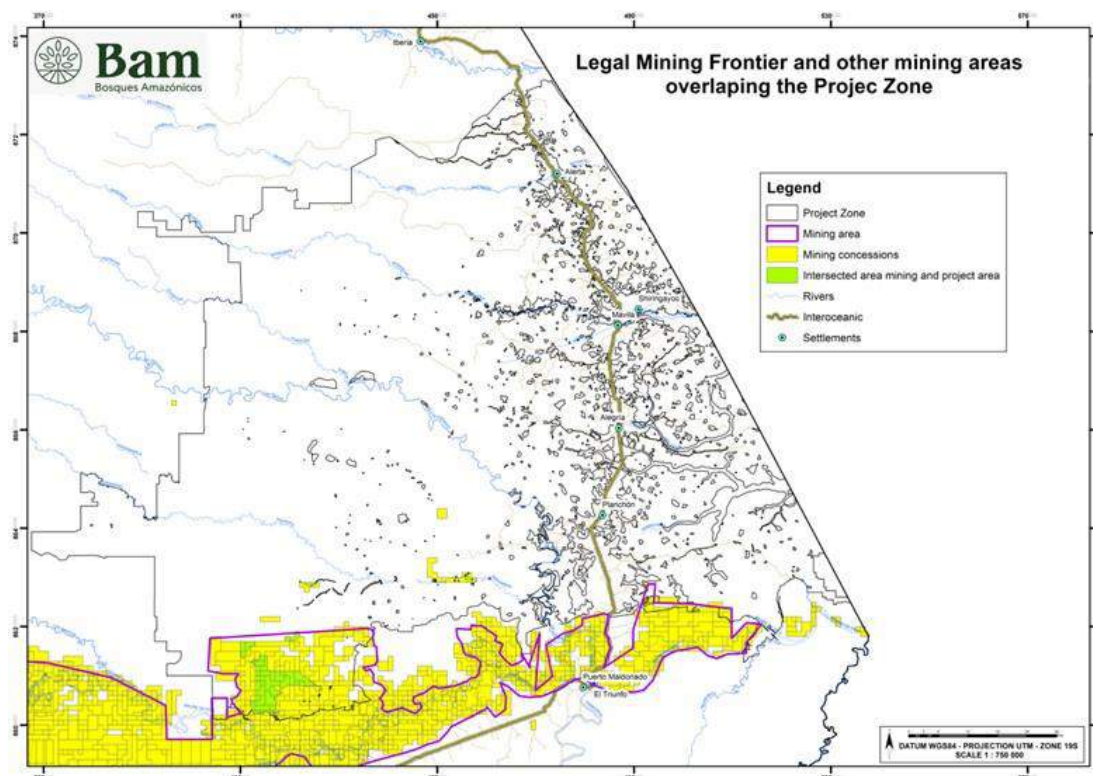
In the southern part of the Project Zone, and therefore the Project Area, there is an overlap with the proposed mining area by the Ministry of Environment in its Emergency Decree No. 012-2010

³⁴ Emergency Decree: <https://www.minam.gob.pe/disposiciones/decreto-de-urgencia-no-012-2010/>

MINAM. This overlap ascends to 225,475 hectares and represents 172 460 ha of mining concessions in the zone and 22,160 ha within the Project Area.

belowMap 2.12 shows the location of the mining concessionaires and petitions within and outside the mining area of SD N° MINAM 012-2010 that overlap Brazil nut concessions, which is incompatible and shows a deficiency state to grant rights over natural resources in a way that does not create conflict (SPDA, 2009). In absence of the project, mining would prevail over the lands of Brazil nut concessionaires in the southern Project Zone.

Map 2.12. Current mining concessions within the mining area that overlap the PA and PZ



Biofuels: Supreme Decree N°013-2005-EM³⁵

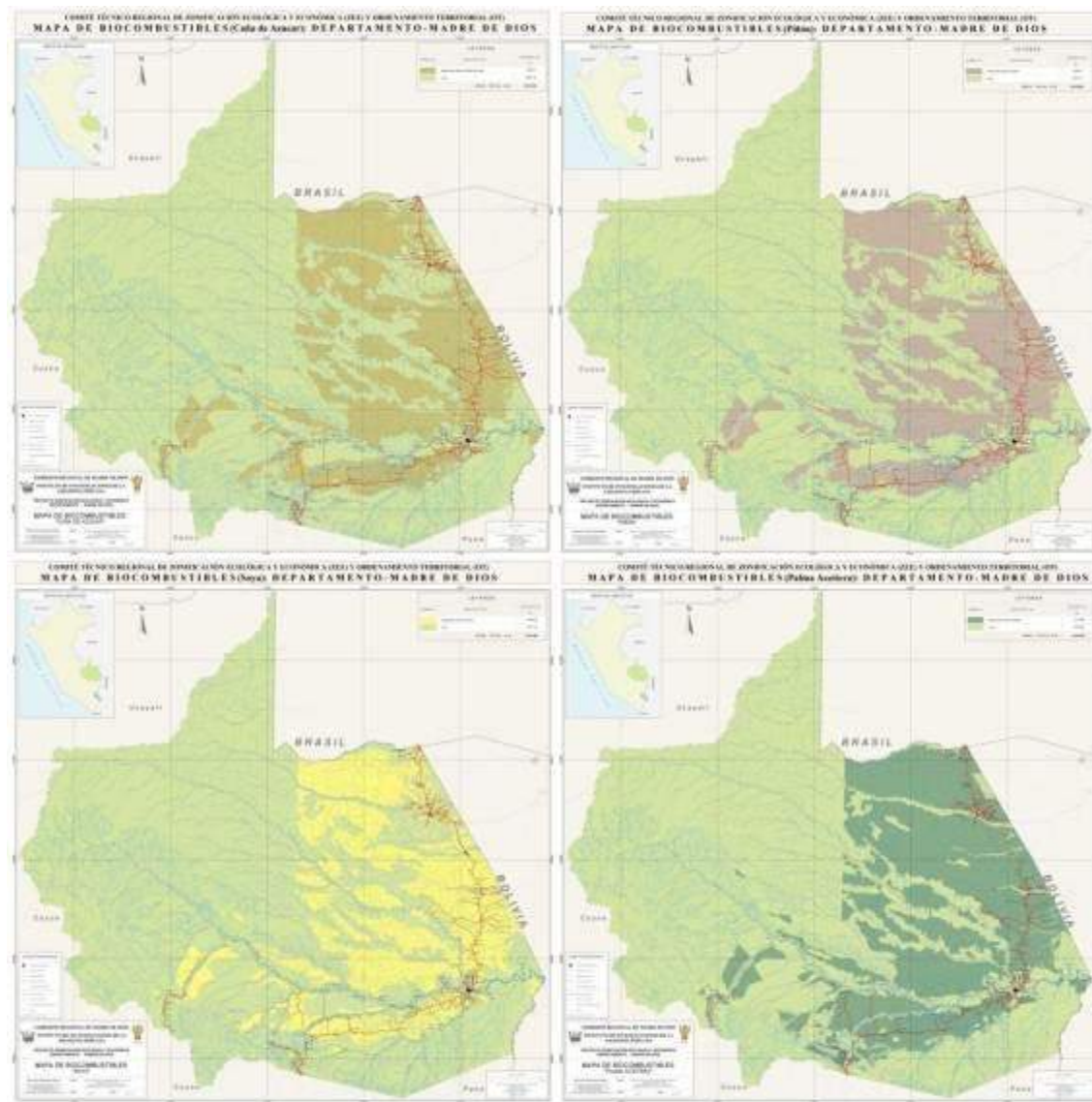
According to the ZEE, the area with potential for biofuel crops includes Project Areas, which crops are a major threat to the continuation of the project and forests of the region (Figure 2.4). A project of GOREMAD by 22 million soles for the "Training and technical assistance for cultivation and industrialization of Oil Palm (*Elaeis guineensis*) in the districts of Tambopata, Laberinto and Inambari in Madre de Dios" according to the Report N°. 09-A-2008-GOREMAD/GRDE/SGDP of GOREMAD. However, the installation is considered as a possibility in the not near future, because

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<https://www.minem.gob.pe/minem/archivos/file/Hidrocarburos/Legislacion/Biocombustibles/Decreto%20Supremo%20No%20013-2005-EM.pdf>

it requires high level of investment, technology, and there is still no installed capacity nor marketing centers for the specific product³⁶.

Figure 2.4. Natural potential for growing biofuels in the Department of Madre de Dios (Sugarcane, Soya, Palm Oil and Pinion)



Source: IIAP

Common Practice Analysis in the Brazil nut Region

Although in Madre de Dios, the Brazil nut activity dates back to the mid-twentieth century, only recently in the 90's that the Brazil nut activity begins to increase, expand and initiate a process of

³⁶ These requirements belong to soybean crop, which is the most common biofuel crop in the neighbor region of Acre, Brazil. Conservation strategies along the Intercoceanic Highway in Madre de Dios, Peru. A spatial economic analysis. Conservation Strategy Found - GRADE, 2010.

regional consolidation as one of the main economic activities (the first companies that process and export Brazil nut are installed and consolidated).

Thus in 1999, the public sector, together with some NGOs (which the newly founded Association for the Conservation of the Amazon Basin – ACCA is most notable) and the company Candela Peru, seeing the growing importance of this activity, developed a diagnosis and Strategic Plan for the Brazil nut sector. That document did not spread.

Given the enactment of the Forest and Wildlife Fauna Law in 2000, the Brazil nut activity in Madre de Dios began a process of organization, formalization, and promotion, in which various public institutions, private companies and civil society organizations participated.

Specifically, the Projects of Formalization of the Brazil nut Activity began, led by NGOs who realized the importance of adapting the activity to these regulations (reorganization of the areas, preparation of management documents, harvesting techniques, forest management, etc.). The first step was given by ProNaturaleza with the legal organization in the Tambopata Natural Reserve (RNT) between the years 1998-2000; supplemented and updated by ACCA in 2003; other NGOs have implemented projects from that year to date (mainly ACCA, International Conservation – CI Peru, WWF, CESVI and in recent years, CAMDE Peru). The projects that have been developed to date are presented in the following table.

Table 2.18. Existing Projects in the Brazil Nut Region

N	Period	Projects	Cooperating	Results
1	2003-2004 y 2005-2007	"Formalization of the access to forest resources and Implementation of a Sustainable management of Brazil nut in Madre de Dios"	Critical Ecosystem Partnership Fund (CEPF) –USA	Project which had two stages, a total of 320 Brazil nut concessions were formalized, in a total of 211 843.5 ha. This project succeeded formalizing, giving guidelines and technical criteria to the forest authority (ex INRENA). Planning and / or mapping Brazil nut concessions. Preparation of General Forest Management Plans (PGMF) and Annual Operating Plans (POAs). Training inventory techniques and Brazil nut ordering. Forestry regulations. Support for the institutional strengthening of the Office of Non-Timber Products INRENA.
2	2004-2006	Sustainable management of Brazil nut forest (<i>Bertholletia excelsa</i>) through legal physical sanitation of concessions and improvement cropping systems in Madre de Dios	America's funds FONDAM. US\$ 95 812	40 concessions and Alerta and Alegria attended with Brazil nut regulation and general plan elaboration in forest management. Mapping and formulation of 40 PGMFs. Estrada's Redesign and manual highway implementation. Construction of 4 warehouses, 4 nuts dryers and 4 latrines. Training of 40 concessionaires in mapping techniques, forest inventory, and

N	Period	Projects	Cooperating	Results
				basket weaving technique. Transmission of radial micro program.
3	2007-2008	Sustainable Use of Brazil Nut <i>Bertholletia excelsa</i> – management Forest Improving for forest conservation in the national reserve of Tambopata and Bahuaja Sonene National Park of Madre de Dios, Peru	ACCA/ Flamingo fund 60 775 Euros	32 Brazil nut harvesters that have organic and forestry certification. The project seeks to work in 30 117 hectares of natural Brazil nut forests RNT. The aim is to train the Brazil nut harvesters in the RNT almost 100% attention was accomplished
4	2007-2008	Sustainable management of the natural Brazil nut forests (<i>Bertholletia excelsa</i>) in the Amazonia od Madre de Dios, Peru.	ACCA/ European union 494 826 Euros	210 families, about 150 000 ha. Tambopata and Tahuamanu. Project which served to give support and technical advice to the Brazil nut harvesters, had relatively regular results didn't reach the designed success. Because technical management of the harvest and post-harvest was improved, but no progress was made in exchange income and products value added
5	2007-2011	Strengthening local groups for the Conservation of Biodiversity and Sustainable Land Management in the Conservation Complex Madidi-Manu. Bolivia and Peru.	Initiative for Conservation in the Andean Amazon ICAA - USAID. US\$1 251 418	Project which intended to continue the Brazil nut arrangement and infrastructure construction of harvest in the Brazil nut sectors of Madre de Dios. Did not reach the expected success
6	Jul 2008- Ago 2010	PAT Project: Improving economic incomes around Brazil nut Activity Agroforestry of the Producers and located in the La Novia stretch - Alerta, Tahuamanu – Madre de Dios		Agroforestry system development that allows to conserve the Amazonian soil, diversifying their use and making it more profitable for the farmer without the loss of biodiversity.

In-house elaboration.

Other projects developed in the region are detailed below:

- Strengthening Sustainable Forest Management in Amazonian Territories of Indigenous Peoples in Peru - FORIN (2006-2008). Executed by WWF, CESVI, IBIS, Welthungerhilfe and AIDSEP. European Union. 2 000 000 euros. (\$ 449 000 dollars for Madre de Dios).

CESVI applied the project in Madre de Dios³⁷, in the CCNN: Arturo Port, Boca Pariamanu, Three Islands, Palma Real and Belgica. The implemented activities were community development plans, land management, sustainable forest management, and organic certification of the Brazil nut, strengthening of the local indigenous governance and development multi-communal enterprise, forestry and trade chains for forest products.

Results:

- Illegal logging in native communities has been reduced through indigenous surveillance, promotion of new regional alliances and advocacy.
 - The boundaries of the five native communities are legally recognized and / or sanitized.
 - Three native communities have integral plans of territorial ordering, General Forest Management Plans (PGMF) and Annual Operating Plans (POAs)
 - Two native communities have met the Gradual System Approach to Management and Organic Certification of the Brazil nut process and have certified Brazil nut in community forests according to the standards of organic certification EU and NOP-USDA
 - Indigenous organization has been formed AFIMAD, responsible for promoting the business chain based on the Brazil nut.
 - Two indigenous communities of Madre de Dios have developed business forest plans.
- Improving the competitiveness of the producers of the sector Alegria for the processing and marketing of the Brazil nut (2008-2009). Executed by CAMDE Peru and financed by FONDEBOSQUE. Project Value 262 463.00 dollars. Beneficiaries, 25 CASAL SAC partners.

Results:

This project began the implementation of a processing plant in Alegria sector. This processing plant is being managed by CASAL SAC. Infrastructure and equipment have been given by another cooperation fund (FONDAM). To the date has begun the collection of data activities, storing, and peeling of Brazil nuts. Industrial processing has not yet started, the production of processed products no the export of such.

- The Brazil nut Concessions Planchón–Manuripe sector have strengthened the competitiveness of Post-Harvest Management Processes and Market Relation (2009-2010). Executor: Environmental Conservation and Development in Peru (CAMDE). FONDAM: U.S. \$ 124 985.31 (co-financed with CEPF).

Results:

- Construction of a basic module for the post-harvest and primary processing of Brazil nut managing: expanding raw material warehouse, building drying area, tank Brazil nuts, dressers and SSHH for staff.
- Equipment and implementation of the basic module for the management of post-harvest and primary processing of Brazil nut.
- Adaptation to the mixed certification system of forest management (FSC) and organic
- Development of a Strategic Plan for CASAL and a Business Plan for certified Brazil nut.

³⁷ The Project was implemented in: Madre de Dios, Loreto, Junín, Ucayali. Its objective was promoting land use planning, management and the sustainable management of forest resources of 36 indigenous communities in the Peruvian Amazon.

- Training of 25 families in business management, Brazil nut forest management and conservation awareness and protection of their Brazil nut.
- Technical assistance to 25 families for proper crop, post-harvest and primary processing of Brazil nut management.

As the projects implemented in Brazil nut concessions for twenty years ago (2000) are discussed and compared with the REDD activities proposed by BAM, it appears that the projects implemented FAILED IN COMPARISON with REDD activities, according to the following indicators of relevance:

- There is no experience in REDD in the proposed area. None of the analyzed projects considered to reduce CO₂ emissions by controlling deforestation and degradation, likewise, none of the projects considered to control the direct threats to the Brazil nut forests. The Brazil nut concessions REDD Project is proposed as the first project for avoiding unplanned deforestation and degradation practiced in the project area; and it bases its activity in monitoring and safeguarding the concession areas as well as in generating added-value to the products, among others.
- Coverage. The non-REDD projects analyzed only had a coverage (in areas and beneficiaries) of an average of 50 families reached (in the case of the ACCA projects) to a maximum of 200 Brazil nut concessionaires (summation of several processes), to which they have received technical assistance, have ordered their concessions and have developed plans to manage their concessions (a situation which is required every year). These projects helped to formalize the legal ownership of the concession.

Another fact to be considered is that proposed projects to date have had a lifetime of no more than 4 years, while the Brazil nut concessions REDD Project is intended to last until 2040.

- Economic valuation. The projects analyzed do not have a proposal to generate their own businesses that can add value to the product. They have focused on generating processes of formalization and management, activity that today, still continues as a pending task. The only successful experience of economic improvement is the project executed by CASAL SAC., but it only benefits 25 Brazil nut producers.
- Articulation and association for development. The experiences gained with Brazil nut producers are oriented to groups of interest focused on sectors, which have made impact on certain issues and groups of Brazil nut families. The association for the Brazil nut development was not promoted, which constitutes a significant difference from the activities proposed by BAM, an association aimed not only to defend their areas, but also to promote the management of forests with the increased value by the environmental services.

2.2.3 Additionality (G2.2)

Legislation

Within the Peruvian legal framework, the concessionaires are supervised and regularized by OSINFOR, which grants compliance or gives a sanctioning administrative procedure (PAS) according to the severity of the infraction. It can even determine the end of the validity of the concession contract if causes of expiration are found, as determined in Articles 195 to 205 of the Regulations of the Forest and Wildlife Law (RLFFS). On the other hand, the illegal actions carried out by third parties (non-concessionaires) in areas of the forest concessionaires are sanctioned by

the Regional Forest and Wildlife Authority (ARFFS) in the frame of the RLFFS (Articles 206 and 207) and the Organic Law of Regional Governments (Literals e) and q) of Article 51, about the transfer of forest and wildlife regulation functions from the national to regional authorities).

Likewise, in the face of the commission of extremely serious or illicit activities within a concession's area, investigations are initiated to determine responsibilities and the corresponding sanctions when applicable, as regulated in Articles 304 to 314 of the Peruvian Civil Code.

However, the implementation of the regulations mentioned above by the ARFFS and Prosecutor's Office specialized in environmental matters in the Madre de Dios region is confronted with the following challenges:

- Presence of illegal (not authorized) land use activities like illegal mining, migratory agriculture, invasions, forest fires, among others.
- Insufficient budget for the fulfillment of their functions, to which acts of corruption are added in these public institutions.

This reality affects the area by exponentially increasing deforestation, loss of biodiversity and the increase of GHG in the project scope and in the MDD region.

In this context, the project will implement a forest monitoring and surveillance system that includes technical and legal assistance for the concessionaires to do the corresponding environmental complaints against illegal acts that may affect their forest and give it adequate monitoring. Additionally, pilot programs on alternative/complementary activities and permanent training are considered, to improve the management capacity of the BN concessions.

Therefore, without the project the partners could not efficiently carry out activities of conservation, recovery, or maintenance of their forests, due to the lack of accompaniment by the State, as well as because the current legal norms only regulate the corresponding sanctions in the administrative and judicial sphere does not prevent the commission of administrative or criminal offenses.

To complement the additionality analysis of the project, a comparison of the financial/economic attractiveness between Scenarios 1 and 2 (baseline) and the project have been made, excluding the expected revenues of carbon to verify that the project (without carbon revenues) is less attractive. The financial indicators used were IRR³⁸, Payback Period and Average Investment. These include costs and revenues relevant to each activity.

The investment analysis below provides relevant assumptions and clear comparison between the proposed project and other scenarios of land use. For more detail on the calculations, please refer to the Excel document "Scenarios Calculations".

Relevant Assumptions of Each Scenario

³⁸ This IRR ratio refers to the Project IRR calculated a return based on project cash outflows and cash inflows only, irrespective the source of financing.

The activities are evaluated in a 10-year horizon and use a discount rate of 16.858%³⁹. This discount rate is preferred instead of others⁴⁰ because this is a reference specifically to forest concessions in Peru, which is the main land tenure within the project area. (See file Supporting documents: SCENARIOS CASHFLOW – ADDITIONALITY).

Furthermore, the analysis considers the capacity and production volume of each activity, according to the standards of the Madre de Dios region.

REDD Project in Brazil Nut Concessionaires (Excluding Carbon Revenues):

The Project income will be generated by the processing and marketing of high value-added Brazil nut. The analysis shows the financial attractiveness of the proposed project⁴¹.

The estimated production is based on storage capacity, operational processes, and technology acquisition of the future plant. The supply of raw material will be gradual, reaching a production level of about 3000 tons of Brazil nuts in shell. The final products will be marketed primarily in international markets.

The project includes a monitoring and surveillance system in all Brazil nut concessions, since so far this activity has been developed inefficiently by the own Brazil nut harvesters due to lack of funds. Also, the organic certification of the Brazil nut concessions will be sought, thus achieving better revenues.

Comparison of Financial Indicators

Project Scenario without carbon incomes: The activities proposed in the REDD Project in Brazil Nuts Concessions (peeled, process and transformation of Brazil nuts, monitoring, and surveillance), without the GHG credit revenues, shows lower rate of return 39% compared to other scenarios analyzed. The proposed project estimates a total investment of approximately US\$1.8 million for REDD activities and productive investments.

Scenario 1. Continuation of Brazil nut activity: Artisanal Brazil nuts activity (low value-added) has a return rate of 89% over the next 10 years; the concessionaire's investment is very small, less than US\$0.01 million per concessionaire. In this scenario, the main problem that generates the latent deforestation of the area is the reduction of productivity due to loss of standing Brazil nuts forest. This would have an impact on the economy and cost-effectiveness of the concessionaires in the long term.

Scenario 2. Transition to non-forest land use activities: Alternative land use activities (Agriculture and Livestock, along with Artisanal Brazil nuts activity in remaining forest). Even if these activities require more efficient management techniques and investment to be sustainable, this scenario has

³⁹ Galarza, Elsa y Karlos La Serna. Las concesiones forestales en el Perú: ¿cómo hacerlas sostenibles?

⁴⁰ For instance, in "Kabura J., Silayo, and Vatn. The Cost of Managing Forest Carbon under REDD+ Initiatives: A Case of Kolo Hills Forests in Kondoa District, Dodoma, Tanzania", there is a mention of World Bank recommending a discount rate of 15.8%.

⁴¹ In fact, BAM will support 100% of the costs of the Project in turn of a percentage of the sales in carbon credits and from the Brazil nut processing plant. Investments include: 1) implementation of the Brazil Nuts processing plant, 2) work capital for the harvesting activities of Brazil Nuts concessionaires' partners of the project, 3) formalization of the documentation of each Brazil Nuts concession to meet the terms of the contracts, 4) implementation expenses of the project.

higher rate of return in the absence of the project, IRR 56.1%. This is explained because the artisanal Brazil nut activity profitability will be reduced over the years due to the deforestation grows in the area. It is estimated that in ten years, approximately 10% of the hectares of Brazil nut concessions turn into alternative land use activities such as livestock and agriculture. The scenario estimates a total investment of approximately US\$0.01 million.

Even though, this scenario is financially less attractive than Scenario 1, the reason why this is the most-likely scenario is because these non-forest land use activities are implemented by other external stakeholders (migrants and local rural producers) and, as Brazil nut harvesting is a seasonal activity, the BN concessionaries are not positioned to protect their concessions from these external invasions and forest fires that affect their concessions as was demonstrated in Section 2.2.2.

Table 2.19. Summary of Financial Indicators

Scenarios	TIR	Period of Return	Investment (millions of US\$)
Proposed Project (without carbon credits)	39.1%	<7 years	1.6
Artisanal Brazil nut Activity (without added value)	89.3%	<3 years	0.01
Alternative activities (agriculture and livestock)	56.1%	<3 years	0.01

In-house elaboration.

Brazil nut concessionaires of Madre de Dios are not attractive to the financial system and, consequently, it is difficult for them to start a project to implement high value without private initiative. Comparing the results, we see that the highest average investment is of project, which in turn has the longest recovery period (seven years); making this scenario the less attractive (the other two scenarios would recover their investment in less than 3 years).

It is possible that in the long term, the dealers can organize, implement the organic certification of their concessions, and improve the collection activity; however, the high costs of these activities will have a negative impact on their profits. Consequently, the scenario will not be sustainable and deforestation process would increase because of the risk of expansion of the agricultural frontier and informal mining.

There is also a high trend of international markets to become rigorous with the organic certification, therefore, the collection methods should be better to those traditional, artisanal methods currently used, in order to improve the quality of the Brazil nuts.

Since the project is close to a couple of Protected Natural Areas: Tambopata National Reserve and Bahuaja Sonene national park, it is very beneficial to develop conservation activities to preserve the biodiversity and prevent the progressive deforestation of the area.

The investment comparison analysis has determined that the other scenarios of land use have better financial indicators (TIR, and Payback Period and Average investment) than the proposed project. Consequently, the proposed project is not financially the most attractive alternative.

Sensitivity Analysis

Finally, we did a sensitivity analysis to show whether the financial attractiveness is robust to reasonable variations in costs.

The following table shows the sensitivity of the IRR to changes on cost parameters of each scenario. To develop this analysis, we made the stress test of -5% and 5% on the cost parameters of each activity, since it is a key variable to quantify the impact on IRR. This analysis shows that the proposed project revenues without carbon components is less profitable than other scenarios of land use, even if reducing their costs is considered.

Table 2.20. Sensitivity Analysis

Scenario	Δ Costs	TIR
REDD project in Brazil nut Concessions (excluding carbon revenues):	-5%	43.9%
	0%	39.1%
	5%	31.4%
Artisanal Brazil nut activity with low added value	-5%	99.2%
	0%	89.1%
	5%	80.3%
Land use Alternative Activities	-5%	59.6%
	0%	56.1%
	5%	52.6%

In-house elaboration.

These results conclude that the proposed project activity is not financially attractive compared to other activities

Finally, we can ensure that the project is additional, and that the proposed activities will not happen unless it is implemented.

2.2.4 Benefits to be used as Offsets (G2.2)

The project does not intend to use any type of benefits (climate, community, or biodiversity) as offsets, differently than VCU sales in voluntary markets.

2.3 Stakeholder Engagement

2.3.1 Stakeholder Access to Project Documents (G3.1)

In addition to being made public on the VERRA platform, the project design and monitoring documents are shared with the representatives of FEPROCAMD (the federation that brings together the project's partner and non-partner concessionaires, see file supporting documents FEPROCAMD INFO), who in turn inform their members of the most relevant aspects of the project at their meetings, assemblies and other decentralized meetings promoted by the project, where project progress such as development activities for the benefit of partners and commercial activities for the generation and sale of carbon credits are discussed.

The relevant VCS documents are also published on the company's website (www.bosques-amazonicos.com).

Furthermore, the project team has copies of the project documents at the office in Madre de Dios, which is open 5 days a week, receiving concessionaires and other project stakeholders, who receive assistance from a team that is permanently at their disposal, for example, to provide them with information on the scope of the project. In this way, any stakeholder or interested person has access to project information and can request any information they consider relevant or that requires explanation.

2.3.2 Dissemination of Summary Project Documents (G3.1)

At the beginning of the project, several decentralized assemblies were held to socialize the purpose and implications of the project: characteristics, benefits, commitments, risks, etc. with Brazil nut concessionaires in the area and other stakeholders. The process of public dissemination to the communities, project participants and society in general followed the communication strategy proposed by the project developer. See Appendix 6 for graphic evidence of the REDD project's public outreach period.

Since then, periodic meetings have been held over the years to socialize relevant project information (see table 2.21). As mentioned, information regarding project design, validation, and verification, as well as other project activities, has been communicated through these meetings (Federation-led assemblies and/or in the meetings led by the project team).

Additionally, following the governance of the project, the president and board of directors of the FEPROCAMD have had open and direct communication with BAM representatives throughout the years of project implementation, being able to exchange information through phone calls, informal meetings and letters. Relevant information on work plans for the implementation of activities and their respective budgets as well as information on carbon credit sales has been shared with the Federation representatives, who in turn have shared this information with the concessionaires through their associative structure (see file supporting documents FEPROCAMD INFO).

Additionally, the project complements the communication regarding relevant project issues by circulating newsletters and other graphic communication tools to the concessionaires (which are delivered, for example, in the decentralized workshops held), as well as in the communication through its social networks such as Facebook (<https://www.facebook.com/profile.php?id=100064041852571>) and WhatsApp. Finally, project information is also published on the BAM blog <https://www.bosques-amazonicos.com/blog/>.

It is important to highlight that the project team is available during the week for the attention of the concessionaires, being able to provide information regarding the project and answer any questions that the members may have about it. The project team has the validation and verification documents on hand in case any concessionaire should come to request a copy.

2.3.3 Informational Meetings with Stakeholders (G3.1)

A summary of the meetings held during the development of the project is presented below:

Table 2.21. Informational Meetings with Stakeholders

Date	Meeting
13/07/2009	Meeting with FEDECAMD leaders
14/07/2009	Meeting with FEDECAMD

Date	Meeting
26/07/2009	Meeting with Brazil nut producers of Alto Malecon San Carlos and Varsovia
02/08/2009	Meeting with Brazil nut producers of Planchon
02/08/2009	Meeting with Brazil nut producers of Alto Malecon San Carlos and Varsovia
03/08/2009	Meeting with Brazil nut producers of Pariamanu
30/08/2009	Meeting with Brazil nut producers of Sabaluyoc
12/09/2009	Participation in Assembly with Brazil nut producers
26/09/2009	Assembly between Brazil nut producers of Alerta and FEPROCAMD
07/10/2009	Presentation of the REDD Brazil nut project to leaders of the Brazil nut sectors
21/11/2009	Presentation of the REDD Brazil nut Project to Brazil nut concessionaires of Monterey
21/11/2009	Meeting with Brazil nut producers of Boca Pariamarca and Ashipal
22/11/2009	Presentation of the REDD Brazil nut Project to Brazil nut producers of Alegria
28/11/2009	Meeting with Brazil nut producers of Sabaluyoc
04/12/2009	Exposition of the REDD Brazil nut Project to Brazil nut producers of La Novia sector
12/12/2009	Presentation of the REDD Brazil nut project to the Brazil nut producers of Alerta
04/06/2010	Participation in the event organized by OSINFOR and CAMDE PERU. REDD Brazil nut concessions project dissemination
06/06/2010	Meeting with Brazil nut producers of Shiringayoc
13/06/2010	Informative workshop
20/06/2010	Informative workshop
03/07/2010	Informative workshop
09/07/2010	Informative workshop
18/07/2010	Project partners meeting in Puerto Maldonado to show the progress of the project to partners
14/08/2010	Training workshop "Agreement of Brazil nut Concessions, Liabilities and Responsibilities". Technical assistance and presentation of OSINFOR to Brazil nut concessionaires - Alerta
20/08/2010	Training workshop "Agreement of Brazil nut Concessions, Liabilities and Responsibilities"
26/08/2010	Training workshop "Agreement of Brazil nut Concessions, Liabilities and Responsibilities"
28/08/2010	Training workshop "Agreement of Brazil nut Concessions, Liabilities and Responsibilities"
11/08/2011	Participatory workshop on rural diagnosis
13/08/2011	Participatory workshop on rural diagnosis
03/09/2011	Technical assistance meeting with FEPROCAMD
15/02/2012	Meeting of the first regional convention of the Brazil nut producers
31/03/2012	Informative workshop on the FSC certification process in non-timber forest concessions
03/03/2012	Meeting with FEPROCAMD
01/04/2012	Informative workshop on the FSC certification process in the non-timber forest concessions
02/04/2012	Informative workshop on the FSC certification process in the non-timber forest concessions
04/04/2012	Informative workshop on the FSC certification process in the non-timber forest concessions
07/04/2013	General Assembly
28/04/2013	General Assembly
19/05/2013	General Assembly
06/07/2013	General Assembly
08/09/2013	General Assembly
06/12/2013	General Assembly
16/05/2014	Coordination meeting for the 3rd Brazil nut festival
27/07/2014	Participation in the national holiday parade
14/11/2014	Working meeting for prioritization of activities of PP0035-EURO ECO TRADE
08/01/2015	General Assembly
22/03/2015	General Assembly
17/05/2015	General Assembly
11/07/2015	Board of Directors meeting
06/09/2015	Board of Directors meeting
14/11/2015	Board of Directors meeting
09/01/2015	Invitation to Workshop organized with CAMEX; CESVI and FEPROCAMD
06/09/2015	FEPROCAMD's General Assembly
06/09/2015	FEPROCAMD General Assembly of the activities of the EURO ECOTRADE project
06/08/2016	II Regional forum of Brazil nut producers

Date	Meeting
20/03/2017	Meeting of the FEPROCAMD with the concessionaires of the Alerta area
15/04/2017	Meeting of the FEPROCAMD with the concessionaires of the Alto Malecón sector
29/05/2017	Meeting of the FEPROCAMD with the different bases
23/08/2017	FEPROCAMD meeting with Iberia concessionaires
28/11/2017	Representation in the Technical Roundtable on Forestry Development
20/04/2017	Coordination with the authorities of Madre de Dios
20/09/2017	Training with SERFOR (National Forestry and Wildlife Service) on forestry law knowledge
01/03/2017	Training with OSINFOR (Organismo de Supervisión de los Recursos Forestales y de Fauna Silvestre) in knowledge about forestry laws
20/01/2018	Participation in the CONAFOR meeting
11/03/2018	Meeting with SENASA - Illegal entry of Brazil Nuts into Bolivia
22/03/2018	FEPROCAMD participation in the CEPLAN Workshop on Governance Agreements, PDC and Vision 2030 in Puerto Maldonado
13/04/2018	Meeting with the project area of the Regional Government of Madre de Dios to promote projects in the Brazil nut sector
29/04/2018	Meeting with GOREMAD representatives - Overlapping of areas.
10/05/2018	Meeting of the FEPROCAMD with the concessionaires of the Sabaluyoc area
20/05/2018	Meeting of the project technical team - FEPROCAMD with the regional councilors of Madre de Dios
13/06/2018	Meeting of the technical team of the project - FEPROCAMD with the Directorate of Legal and Physical Sanitation of Rural Property
17/08/2018	Training with SERFOR (National Forestry and Wildlife Service)
13/10/2018	Meeting of FEPROCAMD and the Brazil nut grassroots organizations
20/11/2018	FEPROCAMD participation in a CONAFOR meeting
19/12/2018	Meeting of FEPROCAMD with the concessionaires of the Alegria sector.
25/01/2019	Meeting between FEPROCAMD and the Natural Resources Manager of the Regional Government
04/03/2019	FEPROCAMD Assembly meeting with delegates from different bases
01/05/2019	FEPROCAMD Press Conference
07/10/2019	Coordination meeting with the BN growers of Tahuamanu with FEPROCAMD
13/05/2019	Cooperation agreement sought between FEPROCAMD and the Regional Forestry and Wildlife Office
13/06/2019	Participation of the Forestry Dialogue and Concertation Roundtable
03/08/2019	Meeting of representatives of the Brazil nut Technical Roundtable with regional councilors
19/09/2019	Meeting with the Director of the Regional Forestry and Wildlife Directorate
16/11/2019	05 Training workshops with SERFOR specialists
22/11/2019	02 training workshops with specialists from SERFOR
23/11/2019	Meeting with the Regional Councilors in charge
18/12/2019	Meeting with the BN Technical Committee, the Regional Governor and the Director of SENASA
05/01/2020	Meeting of the FEPROCAMD Board of Directors to plan the agenda for 2020
15/01/2020	Meeting of the Chestnut Technical Board to advance in the agreements and proposed agenda for 2020
18/01/2020	Meeting with Mr. Robert Nishida, Director of the Regional Forestry and Wildlife Directorate
19/01/2020	FEPROCAMD meeting with the board of directors and concessionaires of the Mavila sector
02/10/2020	Training workshop for the processing and export of Brazil nuts
13/10/2020	Meeting of the FEPROCAMD with the Regional Council
17/10/2020	Meeting of the FEPROCAMD Board of Directors
19/10/2020	Meeting of FEPROCAMD with the regional governor Dr. Luis Hidalgo Okimura
24/08/2020	Agreement of the Regional Directorate of Forestry and Wildlife
24/08/2020	Meeting with Congressman Alexander Lozano and FEPROCAMD
21/12/2020	First delivery of economic benefits to members of the REDD Brazil nut concessions project
21/12/2020	First delivery of economic benefits to members of the REDD Brazil nut concessions project
22/12/2020	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
22/12/2020	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
23/12/2020	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
23/12/2020	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
29/05/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"
16/06/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"
02/07/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"

Date	Meeting
08/07/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"
23/07/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"
16/07/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"
12/08/2021	1st sequence of workshops: " Commitments and responsibilities REDD+ project"
20/08/2021	2nd sequence of workshops "Let's watch over our forests"
26/08/2021	2nd sequence of workshops "Let's watch over our forests"
10/09/2021	2nd sequence of workshops "Let's watch over our forests"
17/09/2021	2nd sequence of workshops "Let's watch over our forests"
01/10/2021	2nd sequence of workshops "Let's watch over our forests"
08/10/2021	2nd sequence of workshops "Let's watch over our forests"
15/10/2021	2nd sequence of workshops "Let's watch over our forests"
29/10/2021	2nd sequence of workshops "Let's watch over our forests"
19/11/2021	3rd Sequence of Workshops "Developing Project Proposals"
26/11/2021	3rd Sequence of Workshops "Developing Project Proposals"
03/12/2021	3rd Sequence of Workshops "Developing Project Proposals"
16/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
19/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
19/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
20/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
20/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
21/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
21/07/2021	Second delivery of economic benefits to members of the REDD Brazil nut concessions project
20/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
20/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
20/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
21/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
21/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
22/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
22/12/2021	Third delivery of economic benefits to members of the REDD Brazil nut concessions project
06/05/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
13/05/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
03/06/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
10/06/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
17/06/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
23/06/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
15/07/2022	3rd Sequence of Workshops "Developing Project Proposals" - Second Phase
29/09/2022	4th sequence of workshops "My commitment to the REDD Project".
13/10/2022	4th sequence of workshops "My commitment to the REDD Project".
01/04/2022	Fourth delivery of economic benefits to members of the REDD Brazil nut concessions project
01/04/2022	Fourth delivery of economic benefits to members of the REDD Brazil nut concessions project
01/04/2022	Fourth delivery of economic benefits to members of the REDD Brazil nut concessions project
04/04/2022	Fourth delivery of economic benefits to members of the REDD Brazil nut concessions project
04/04/2022	Fourth delivery of economic benefits to members of the REDD Brazil nut concessions project
05/04/2022	Fourth delivery of economic benefits to members of the REDD Brazil nut concessions project
19/05/2022	Fifth delivery of economic benefits to members of the REDD Brazil nut concessions project
19/05/2022	Fifth delivery of economic benefits to members of the REDD Brazil nut concessions project
19/05/2022	Fifth delivery of economic benefits to members of the REDD Brazil nut concessions project
20/05/2022	Fifth delivery of economic benefits to members of the REDD Brazil nut concessions project
20/05/2022	Fifth delivery of economic benefits to members of the REDD Brazil nut concessions project
23/05/2022	Fifth delivery of economic benefits to members of the REDD Brazil nut concessions project
25/07/2022	Sixth delivery of economic benefits to members of the REDD Brazil nut concessions project
25/07/2022	Sixth delivery of economic benefits to members of the REDD Brazil nut concessions project
25/07/2022	Sixth delivery of economic benefits to members of the REDD Brazil nut concessions project
26/07/2022	Sixth delivery of economic benefits to members of the REDD Brazil nut concessions project
26/07/2022	Sixth delivery of economic benefits to members of the REDD Brazil nut concessions project

Date	Meeting
27/07/2022	Sixth delivery of economic benefits to members of the REDD Brazil nut concessions project
23/09/2022	Workshop "My commitment with the project" in Alegría, with 54 participants (32 men and 22 women)
29/09/2022	Workshop "My commitment with the project" in Mavila, with 29 participants (17 men and 10 women)
13/10/2022	Workshop "My commitment with the project" in Alerta, with 41 participants (17 men and 24 women)
21/10/2022	Workshop "My commitment with the project" in Planchón, with 33 participants (21 men and 12 women)
28/10/2022	Workshop "My commitment with the project" in Paríamanu, with 44 participants (19 men and 25 women)
13/03/2023	First delivery of economic benefits 2023 to members of the REDD Brazil nut concessions project
17/04/2023	Second delivery of economic benefits 2023 to members of the REDD Brazil nut concessions project
22/04/2023	Concessionaires celebration event

In-house elaboration.

2.3.4 Community Costs, Risks and Benefits (G3.2)

Every year BAM works on an annual budget which includes the different activities necessary to comply with the Project goals. This budget proposal is later shared with FEPROCAMD's representatives for their feedback and approval. Hence, every year, BAM and FEPROCAM co-develops an annual budget for the project, determining the project annual costs. Furthermore, BAM shares annual reports to FEPROCAMD's representatives regarding the improvement in the budget execution. In that way, every partner can understand the status of the project implementation. Additionally, BAM shares reports on the sales of carbon credits to FEPROCAMD (including volumes and prices). This information is first socialized with the federation representatives, who in turn communicate this information to the general community through assemblies in accordance with their bylaws. If the federation requires explanatory meetings in addition to the submission of documentation, both the project team and BAM representatives are available to do so.

Benefits from the project such as the implementation of different activities to support concession management and community livelihood are also shared throughout the different communication channels: meetings, bulletins, webpage, WhatsApp group, Facebook group, project office etc. Regarding profit sharing, the community is also communicated permanently through the channels mentioned. The meetings for the delivery of benefits, training workshops and courses, among others, are communicated in due time to the community through the communication channels.

Throughout the years, the sale of carbon credits has been allocated entirely to cover the project activity costs, and the community has been advised permanently of this matter being aware of volatility of carbon markets. Since 2021 the project has been sharing (in addition to project activities) economic benefits directly to each project partner from the sales of carbon credits. This has been communicated to concessionaire partners throughout the different communication channels: meetings, bulletins, WhatsApp group, project office, etc.

As mentioned above, the project team conducts periodic meetings/workshops in the different associations (decentralized) to share and discuss project issues so that all concessionaires are fully informed. Likewise, the project team is permanently in the offices in Puerto Maldonado to assist concessionaires with any issues related to the design and development of the project.

All relevant information is shared in advance and in a timely manner with the community.

2.3.5 Information to Stakeholders on Validation and Verification Process (G3.3)

BAM and FEPROCAMD representatives (president and board) have direct communication and are continuously (daily if required) discussing and gathering for project purposes. BAM has designated

a Project Director and a Project Coordinator who are permanently in Madre de Dios for leading the development of the project in coordination with FEPROCAMD's representatives. Furthermore, a group of specialists are hired for project purposes with the responsibility of executing the activities and processes required by the project. This whole team is based in Madre de Dios and are 5 days a week available at the project offices. They permanently receive concessionaires for attending their requirements.

In this line, communication between BAM and FEPROCAMD is permanent and fluid. Relevant information regarding the project is shared informally (regular meetings, calls, etc.) and formally when required (though letters). Information shared includes Validation and Verification Processes (with third party auditors and VERRA).

As mentioned before, different channels have been developed for promote fluid communication, such as: meetings⁴², Facebook page, WhatsApp group where 160 partners are members (40% of current partners), bulletins, etc. Validation and verification processes are also communicated through these channels. An example is presented below.

Figure 2.5. Channels



Source: BAM

2.3.6 Site Visit Information and Opportunities to Communicate with Auditor (G3.3)

During validation and verification processes (both VCS and CCB), the external auditors have the opportunity to: visit the project, have interviews with FEPROCAMD and BAM's representatives, have interviews with different (random) concessionaires and/or interviews with stakeholders they consider relevant for the auditing process.

⁴² Meetings were cancelled during COVID-19 pandemic due to national restrictions.

Figure 2.6. Whatsapp group



Source: BAM

Concessionaires are informed of the audit visits through the different channels mentioned (e.g. whatsapp), as well as through letters sent to the representatives of the Federation in this regard. Communication to other stakeholders such as local authorities is done by telephone, in order to schedule possible interviews between local representatives and the auditor, if deemed convenient.

2.3.7 Stakeholder Consultations (G3.4)

The process of community and stakeholder consultation for project design was carried out based on a community consultation protocol. The protocol considered the following components:

Coordination with Brazil nut Leaders

The process of consultation and diffusion started by identifying and establishing relations with the main leaders the Brazil nut sector. The project proponent put special emphasis on making relations with all the leaders recognized by Brazil nut producers (concessionaires). To achieve this purpose BAM staff visited all Brazil nut sectors to identify and verify the legitimacy and representativeness of the leaders in each area.

Diffusion of REDD+ Project to Brazil nut Leaders

BAM proceeded to spread and expose the possibility of executing a REDD+ Project in the area, through several working meetings between BAM and Brazil nut leaders in each sector as in Puerto Maldonado project implication, benefits, costs, compromises, risks, among others were communicated and discussed.

Visit to BAM Experience

To reinforce carbon project understanding and natural climate solutions relevance, as well as to demonstrate the experience and institutional seriousness of BAM, the main leaders of each sector

were invited to Pucallpa, in the region of Ucayali to visit and learn about BAM's Campo Verde Reforestation Project, an extensive formerly degraded area that was reforested by BAM, being the first large scale reforestation with native species ever done in the country. This visit showed/reinforced Brazil nut producers the opportunity for developing REDD in Madre de Dios and BAM's high experience in carrying out such projects.

Establishment of Commitments, Act of Intention

Once the opportunity of REDD was diffused and demonstrated, commitments at an institutional level were established and an Act of Intent between BAM and FEPROCAMD was signed. This was a relevant step for the project as the Act of Intent established the agreements and commitments at this stage.

Organizational Strengthening and Technical Assistance

One of the established agreements demanded by the leaders, considering the problems of social, legal and political fragmentation of the Brazil nut sector, was to support organizational strengthening of the sector, as well as the technical assistance for concessionaires, which was included as a priority activity for the project.

Signature of Framework Agreement

This activity took place after a democratic process conducted by FEPROCAMD, where the base representatives were elected and their representatives ratified (new Directing Board). After this reconstitution assembly, a plenary meeting was held with the presence of the Brazil nut leaders and BAM, where the terms of the main agreements and terms of the association were agreed and defined for the execution of the REDD project between BAM and the Brazil nut sector (through FEPROCAMD). This framework agreement has been physically distributed to all grassroots associations of FEPROCAMD.

Consultation Process and Brazil nut Affiliation

The REDD Brazil nut project (BAM-FEPROCAMD) with technical assistance CAMDE PERU, begun the diffusion of this agreement through campaigns, consultations, lectures, workshops and working groups involving Brazil nut concessionaires. Observations were raised and answered. All project partners decided to participate in the project freely and with informed consent.

The diffusion of the project implications continues. Observing the wide acceptance of the project among the Brazil nut concessionaires, the project team continues with the diffusion of the project through workshops, decentralized meetings, one to one meeting, etc. Currently, new concessionaires are joining the project in a free and informed decision.

Contract Signing

As mentioned, within this consultation process, the Brazil nut concessionaires decided whether to participate in the project or not. The Brazil nut concessionaires that did decide to participate begun its incorporation to the project by voluntarily signing a Contract with FEPROCAMD on Transfer of Carbon Rights. In it, the concessionaire transfers their rights of environmental services of carbon capture to the FEPROCAMD and this transfers them to BAM (defined in the framework agreement).

In addition, as mentioned above, the project's annual work plan and budget are socialized with the federation's representatives. Thus, the work plan with the prioritized activities for implementation are approved by both BAM and FEPROCAMD.

Also, the community is constantly considered in the design of the project. For example, in 2022, the development of pilots for the implementation of productive value chains was initiated to generate greater income flows for the families who are members of the project. To this end, the concessionaires were surveyed to evaluate their preference as to which project to implement. After conducting these workshops and rounds of surveys, the pilots were defined based on the request or preference of the majority. (See file Supporting documents Stakeholder Consultation)

2.3.8 Continued Consultation and Adaptive Management (G3.4)

The project's activities are adjusted as a response of permanent evaluation and feedback.

Annually the parties agree on a work plan and budget for the activities to be implemented according to the needs, context, available resources, etc. Always, seeking to fulfill the obligations and objectives of the project.

Additionally, activities are always strengthened/adjusted with feedback from stakeholders. For example, in the workshops held throughout the year, the project team provides a space for the community to send their needs and proposals for activities to be carried out or reinforced.

As an example, the Control System and Monitoring implementation was modified. Now, the Monitoring Control and Surveillance system is designed to be integrated/holistic, considering an articulation of three pillars: satellite, technical, legal.

2.3.9 Stakeholder Consultation Channels (G3.5)

Channels used for consultation were decentralized assemblies with local associations during many months in 2009, followed by a massive general assembly with the participation of the Ministry of Environment at the moment, Mr. Antonio Brack (RIP).



Source: BAM.

Other ways used to communicate and disseminate the project were interviews in local radio, TV and newspapers. This information may be found in Appendix 5: Consultation process and Appendix 6: Public dissemination of the REDD project.

Currently, consultation processes are carried out permanently throughout different channels: permanent decentralized meetings, social media (Facebook, WhatsApp), office meetings (open from Monday to Friday), direct contact (telephone) with the project's admin team, a suggestion box has been established at the Project's office for concessionaires and stakeholders' comments, suggestions and complaints (see file Supporting Documents: Feedback and Grievance) .

2.3.10 Stakeholder Participation in Decision-Making and Implementation (G3.6)

The project proponent has an official policy against any type of discrimination, which is uploaded in the company webpage. No incidents have occurred during period of design and implementation. As detailed above, the consultation phase was carried out directly with the community involved, incorporating the representatives from each association.

The project actively and strongly promotes the participation of stakeholders directly and through their pre-existing grassroots organizations (FEPROCAMD and its local associations). Through the general and local assemblies, funded by the project, all the participants may express their ideas about the project. Annual plans are approved jointly by FEPROCAMD and BAM.

The main information that is shared with Brazil nut leaders and members are:

- Annual plans and budgets
- Commercial information related with carbon trading
- Validation and verification results

The participation may occur through different channels, as workshops, surveys, WhatsApp and an office, that is permanently open, funded by the project, to receive to stakeholders.

It should be noted that FEPROCAMD's representatives, both in the associations and in its board of directors, include the participation of women leaders. Likewise, the women concessionaires actively participate in the meetings and activities of the project.

Table 2.22. Participation of women*

	Total	Women	%
FEPROCAMD board	6	2	33%
Associations' presidents	14	3	21%
Association's directors	109	36	24%
Workshops participations	577	254	44%
Project partners	405	150	37%

*See file Supporting Documents gender – women and project activities

2.3.11 Anti-Discrimination Assurance (G3.7)

The project proponent has an official policy against any type of discrimination, which is uploaded in the company webpage. The gender equity, diversity and inclusion policy approved in its board of directors, includes the following basic principles of action. This Policy applies to all employees, directors and officers, as well as contracted consultants, regardless of their nationality or residence. It also applies to relationships with all BAM's stakeholders.

a) Equal opportunities without discrimination.

- To guarantee the quality of employment with the aim of promoting equal opportunities and non-discrimination, encouraging the maintenance of stable and quality jobs.
- Practice and demonstrate equitable treatment that promotes personal and professional progress.
- Comply with current legislation on diversity, equal opportunities, and inclusion.
- To respect diversity, ensuring non-discrimination based on gender, age, race, nationality, ethnic origin, sexual orientation, religion, ideology, marital status, family responsibility or disability.
- Ensure that all employees, without discrimination based on gender or any other personal condition, are provided with the same opportunities for access to the training necessary for their professional development.
- Extend to BAM's value chain its commitment to respect diversity and equal opportunities. Promote the hiring of suppliers that have policies in this area or adhere to the principles of this Policy.

b) Reconciliation of personal, family and work life.

- Encourage the organization of working conditions with a gender perspective, allowing the reconciliation of personal and professional life for all workers.
- Ensure that working conditions allow the reconciliation of work and personal life of workers, implementing measures such as digital disconnection or flexible schedules in accordance with the responsibilities of each worker.
- Attend with the appropriate integration measures, among others, the situations of single people, married people, unmarried couples, divorced, separated, widowed, with or without

children and with other family and emotional circumstances, including the specific link with pets, as living beings endowed with sensitivity.

c) Zero tolerance against sexual harassment.

- Preserve an environment free of workplace harassment, especially that which has as its intention or basis direct or indirect discrimination.
- Collaborate in the fight against gender-based violence.

This policy comprises commitments in:

- Creating a work environment based on respect that values difference and provides equal opportunity, allowing full and active participation of all members of BAM's workforce.
- Create an inclusive team culture characterized by openness and constructive challenge, where people feel respected, valued, and supported.
- Accept and encourage diversity of thought and experience to maximize the company's performance.
- To treat personnel fairly and without any form of discrimination; acting in such a way as to protect all employees from any discriminatory treatment that would be unethical or unlawful.
- To implement and develop policies for selection, hiring, promotion, training, professional classification, and other working conditions, based solely on criteria of merit and ability.
- Provide workers with flexible work options that focus on improving their personal and family life.
- Promote working conditions that prevent labor and sexual harassment due to, among others, gender, sex, sexual orientation, gender identity and expression, as well as any discriminatory conduct based on nationality, ethnic or social origin, skin color, marital status, family responsibility, religion, age, disability, social status, political opinion, health status, both in a face-to-face and digital work environment.
- In addition, BAM is committed to ensuring that its employees, as well as any stakeholders with whom the company interact, interact in an environment free of discriminatory, derogatory, or hostile remarks, gestures or other behavior.

In terms of gender equity, the project promotes the participation of women in the project, offering the same communication and possibilities for all concessionaires, as well as the same benefits, providing culturally appropriate and suitable communication channels for women (see table 2.22 Participation of women)

2.3.12 Feedback and Grievance Redress Procedure (G3.8)

The protocol for feedback and attention to complaints is detailed in Figure 2.7. As channels for receiving comments and complaints, the project has established the following means:

A suggestion box has been installed in the project offices so that anyone can send anonymously any query, claim, complaint or recommendation related to any activity promoted/developed by the project. During the first years, all suggestions received were attended to, as described in the corresponding Monitoring Reports. It is worth mentioning that the mailbox is taken to the decentralized workshops carried out by the Project, in order to obtain any possible complaints or suggestions that may arise on those spaces.

In addition to the mailbox, another mechanism promoted by the project is, during the decentralized workshops, there is space for feedback through survey forms in which concessionaires can express

their comments and suggestions about the project. See the folder Supporting Documents “Feedback and grievance”.



FORMULARIO DE SUGERENCIAS, APORTES Y/O RECLAMOS

El presente formulario está disponible para todos los socios y socios del proyecto REDD+ Castañeros, que quieren dejar algún comentario, recomendación y/o queja, ya que buscamos **promover el diálogo con respeto** y estamos abiertos a escuchar las opiniones de todos nuestros socios y socios para poder seguir creciendo y mejorando.

Fecha: _____

Sector: _____

Asociación: _____

DNI*: _____

(opcional) _____

Teléfono*: _____

(opcional) _____

*En caso quieras recibir una respuesta individual y específica por parte del equipo del proyecto REDD+ Castañeros.

Selecciona el/los áreas relacionadas a la queja/sugerencia:

- ☐ Monitoreo, Control y Vigilancia
- ☐ Técnica
- ☐ Legal
- ☐ Administración
- ☐ Proyectos
- ☐ Comunicación
- ☐ Relaciónamiento
- ☐ General

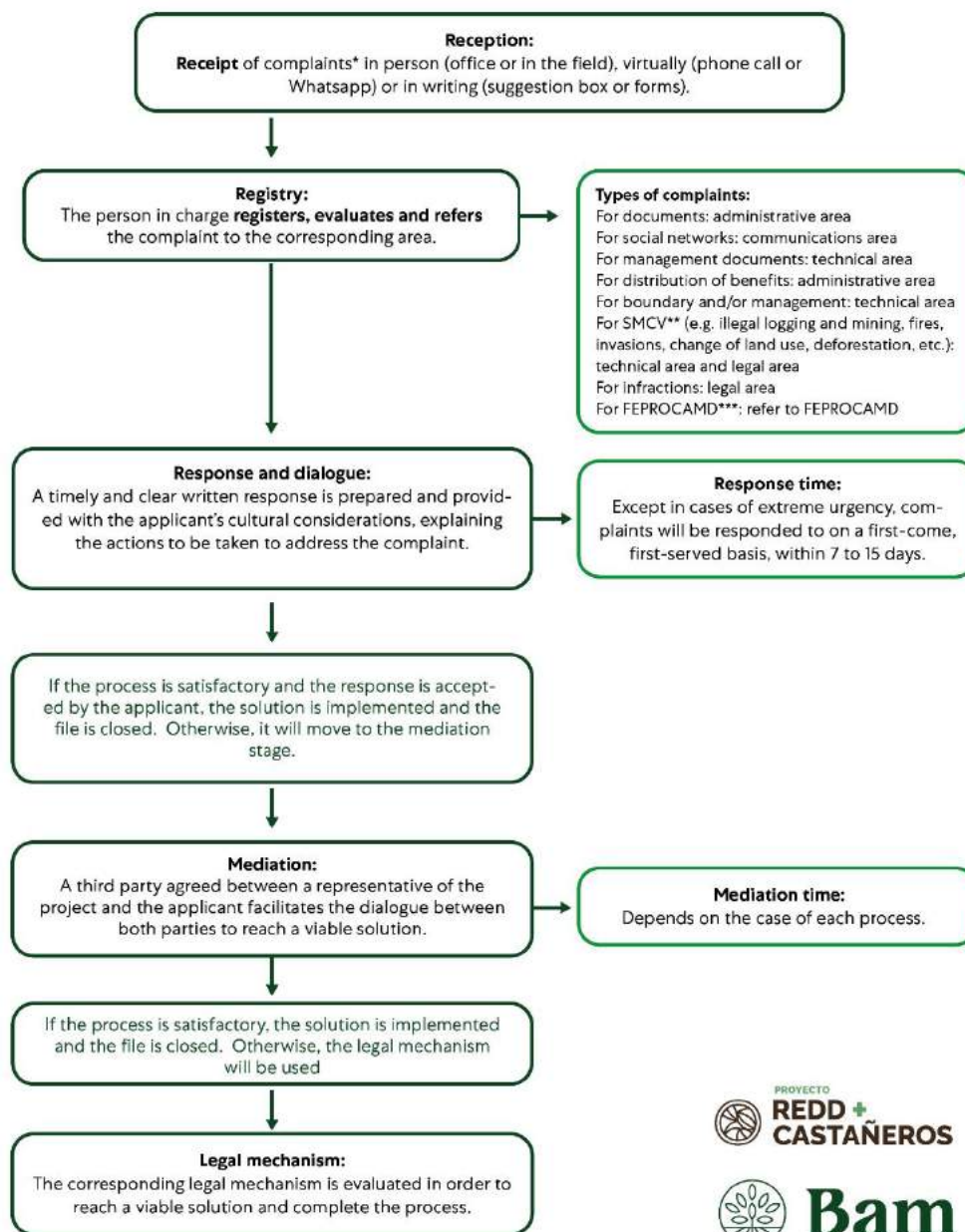
Deja tu comentario aquí. Procura detallar el porqué de tu queja/sugerencia e indicar una propuesta de solución o atención:

Puedes enviar una foto, video o documento de soporte a contacto@reddcastaneros.com o al Whatsapp al número 964-102-622. Recuerda que también puedes acceder a este formulario de manera virtual en la descripción del grupo de Whatsapp del proyecto REDD+ Castañeros o siguiendo el enlace a algunos del equipo, llamando al 964-102-622 o al 951-386-171.

It should also be noted that the project team is available to address any questions, complaints or suggestions from concessionaires at the project office 5 days a week. Additionally, other channels such as social networks and WhatsApp group are used for a continuous flow of communication. So far, no mediation or arbitration or court phases have been reached, as all doubts, complaints and comments have been resolved in a timely manner.

Figure 2.7. Feedback and grievance redress mechanism

**Complaints and Suggestions Mechanism Flowchart REDD+ Brazil
Nut Concessions project - BAM**



*Complaints, claims, comments, suggestions ** Monitoring, Control and Surveillance System ***Federation of Brazil Nut Producers of Madre de Dios

In-house elaboration.

2.3.13 Accessibility of the Feedback and Grievance Redress Procedure (G3.8)

The complaints and claims mechanism has been explained and socialized with FEPROCAMD representatives. It is also communicated through regular means of contact such as posters and social networks.



In decentralized workshops, space is provided for constant feedback and the filling out of forms. In these workshops, the purpose of the form and its structure are explained in advance for the corresponding filling out.



2.3.14 Worker Training (G3.9)

Project activities include ongoing community training (on topics such as the legal framework and requirements as concessionaires, fire prevention, etc.), whose purpose is to increase the community's capacities in conservation, sustainable forest management, sustainable and valuable productive activities, respect for biodiversity, among others, seeking to strengthen the community's knowledge and tools on these issues in the long term. These trainings are sometimes carried out in conjunction with forestry authorities and/or other interested organizations.

The community is also trained in the activities implemented by the project, such as the development and course of the monitoring, control and surveillance system, so that the community can become actively involved in the protection of the forests as part of the project protocols, developing long-term capacities. In addition, training on biodiversity conservation matters is proposed.

Training events are intended to be decentralized in order to reach as many participants as possible from all sectors involved in the project. Calls for participation are made through the representatives and channels of FEPROCAMD as well as those of the project.

The project team hired to implement the activities proposed by the project includes trained professionals with vast experience in their fields of action. Likewise, the project team has the permanent support of BAM professionals, who have extensive experience in the development of REDD projects as detailed in point 2.4. Additionally, on MRV matters, the project is supported by the training and experience of the PASKAY team, who also have years of experience in these field as shown in point 2.4. In terms of biodiversity issues, the team is permanently developing and working together with prestigious organizations in the field of research as part of BAM's Science Program (see file Supporting Documents BAM's Science Program).

In this sense, the different experiences complement and support each other, always seeking to strengthen the capacities of the project management team for its optimal performance.

2.3.15 Community Employment Opportunities (G3.10)

Within the framework of the project, the hired employees are the professionals in charge of carrying out and complying with the activities and goals established by the project in the short, medium and long term.

For the development of the project activities, which are executed with the purpose of meeting the project's goals (emissions reduction, biodiversity protection, community development), a team of specialists with experience in the different areas required by the project is hired. This includes specialists in the following areas: forest control, monitoring and surveillance, legal and/or technical expertise, community relations, administrative and logistical capabilities, among others.

To form the project team, first the necessity of personnel (human resource) is identified and the selection criteria and job profile are established. Then an open call is made. It is important to clarify that the call is open to the entire public and that, like everyone else, concessionaires (partners and non-partners of the project) and their relatives of legal age, as well as other stakeholders, can participate in these selection processes. The aim is to hire the most qualified person for the position, who fits the selection parameters. An example of a job offer is shown in Figure 2.8.

The calls for personnel/positions that are shared through the regular communication channels previously mentioned, such as the social networks of the project promoter: <https://www.linkedin.com/feed/update/urn:li:activity:6984295160650080256>.

In the event of requiring the service of an independent head-hunting consulting firm, this possibility or form of recruitment could also be considered.

It is important to mention that labor regulations are strictly complied with and decent work is promoted, not forced or child labor, based on the skills and experience of each person. Equality at work and in the performance of activities, without discrimination, is also promoted. All this as part

of the commitments established in the Corporate Sustainability Policy (See file Supporting Documents "BAM Policies"), adding that the recruitment, selection and retention of talent is carried out under a favorable framework of labor relations based on equal opportunities, respect for diversity and reconciliation with personal and work life.

Additionally, it is important to note that concessionaires are not hired to be part of the REDD+ project. Concessionaires (rural families) are project partners and therefore direct beneficiaries of the REDD+ Brazil nut concessions project. Also, the concessionaires are not employed to manage their areas (concessions) nor to develop activities related to Brazil nut; this right has been granted to them through their concession contracts, as long as they comply with the requirements established in their contracts celebrated with the Peruvian state.

Figure 2.8. Job opportunity

Oportunidad laboral BAM

Coordinador de proyecto REDD+ en Madre de Dios

Propósito del empleo:

Responsable de la coordinación general de un proyecto de conservación *REDD+ en Madre de Dios, con la participación de diferentes concesionarios forestales de la región. Responsable de asegurar el éxito operativo del proyecto, liderando la implementación de estrategias que permitan frenar la deforestación e impulsar el desarrollo sostenible en la zona de influencia.

*REDD+: Reducción de Emisiones de la Deforestación y la Degradación de los bosques

Responsabilidades principales:

- Liderar al equipo del proyecto, asegurando la óptima implementación de las actividades en las diferentes áreas: monitoreo control y vigilancia, técnica y legal, comunicaciones, relacionamiento comunitario, etc. Coordinar, supervisar y evaluar el desempeño del equipo del proyecto.
- Coordinar, en conjunto con la Dirección regional y Gerencia, la planificación del proyecto en base a los objetivos establecidos. Reportar el avance de ejecución y cumplimiento.
- Liderar la implementación y medición de las acciones del proyecto cumpliendo las metas en el tiempo y el presupuesto estimado.
- Coordinar el trabajo conjunto con la Federación, asociaciones y concesionarios involucrados, velando por el óptimo relacionamiento entre las partes y asegurando el éxito del proyecto de cara a todos sus grupos de interés.
- Velar por el debido manejo económico del presupuesto del proyecto.
- Coordinar y reportar a la alta dirección los avances y necesidades del proyecto.

Requisitos:

- Formación: Ingeniería Forestal, ambiental, biología, abogacía o carreras similares, de preferencia con estudios de postgrado relacionados al tema REDD+.
- Experiencia de más de 3 años en coordinación, dirección o gerencia de proyectos.
- Experiencia en desarrollo e implementación de planes estratégicos.
- Experiencia de trabajo concesionarios forestales, de preferencia de Madre de Dios.
- Experiencia en trabajo en grupo, manejo de personal y manejo financiero.
- Disponibilidad para residir en Madre de Dios y viajar a los ámbitos del proyecto.
- Proactividad, trabajo en equipo, comunicación y liderazgo.

Interesados enviar su CV a:
wmoreno@bosques-amazonicos.com

Para mayor información de la empresa:
www.bosques-amazonicos.com



Bam

Source: BAM

2.3.16 Relevant Laws and Regulations Related to Worker's Rights (G3.11)

REDD Project in Brazil Nut Concessions in Madre de Dios is articulated under the standards of the Labor Productivity and Competitiveness Law No. 728, which promotes the training and labor formation of their workers as a mechanism to improve their income and labor productivity, while following the constitutional norms of labor security. A list of the relevant legal framework related to workers' rights is detailed in Table 2. 23. This information is shared with employees during training/induction events that take place when the person first joins the team.

Table 2.23. Relevant Laws and Regulations Related to Worker's Rights

Norm	Effective Date	Relevant articles demonstrating compatibility with the layout/implementation of the Project
LEGISLATIVE DECREE 728 (TUO SUPREME DECREE 003-97-TR) PRODUCTIVITY AND COMPETITIVENESS LAW	March 28th ,1997	This law promotes the massive access to employment through special programs and stimulates productive private sector investment. Furthermore, it improves levels of appropriateness in the country so substances, as well as combating unemployment and underemployment. Finally, ensures job security and incomes of workers, while respecting the constitutional rules of job security.
SUPREME DECREE 001-96-TR PRODUCTIVITY AND COMPETITIVENESS REGULATION	January 26th ,1996	This regulation develops and specifies the objectives and tenets of Legislative Decree 728.
LAW 29245 THIRD-PARTY SERVICES PROVIDER LAW	June 26th, 2008	This law regulates private third-party services. Also, it regulates the cases from outsourcing, the requirements, rights and obligations, and penalties for companies that distort the use of this method for corporate engagement.
SUPREME DECREE 006-2008-TR THIRD-PARTY SERVICES PROVIDER REGULATIONS	September 12th, 2008	This regulation develops and specifies the objectives and tenets of Law 29245.
TUO SUPREME DECREE 001-97-TR SENIORITY BENEFITS LAW	March 1st, 1997	This law regulates compensation for length of service that has the quality of social benefit provision of contingencies that causes the cessation of work and promotion of workers and their families.
SUPREME DECREE 004-97-TR SENIORITY BENEFITS REGULATION	April 15th, 1997	This regulation develops and specifies the objectives and tenets of Supreme Decree 001-97-TR
LEGISLATIVE DECREE 713 VACATION LAW	November 8th, 1991	This law regulates the consolidation of the benefits provided by the existing labor laws.
SUPREME DECREE 012-92-TR VACATION REGULATION	December 3rd, 1992	This regulation develops and specifies the objectives and tenets of Legislative Decree 713.
LAW 27735 HALF/END-OF-YEAR HOLIDAY BONUSES LAW	May 8th, 2002	This law establishes the right of workers subject to the labor of the private sector to receive two bonuses in the year, among others.
SUPREME DECREE 005-2002-TR HALF/END-OF-YEAR HOLIDAY BONUSES REGULATION	July 4th, 2002	This regulation develops and specifies the objectives and tenets of Law 27735.

Norm	Effective Date	Relevant articles demonstrating compatibility with the layout/implementation of the Project
LEGISLATIVE DECREE 892 PROFIT SHARING LAW	November 8th, 1996	This standard regulates the right of workers to participate in the profits of companies that develop income-generating activities.
SUPREME DECREE 009-98-TR PROFIT SHARING REGULATION	November 6th, 1998	This regulation develops and specifies the objectives and tenets of Supreme Decree 009-98-TR.
LEGISLATIVE DECREE 688 SOCIAL BENEFITS CONSOLIDATION LAW	5th, 1991	This law regulates social benefits for workers.
SUPREME DECREE 024-2001-TR SOCIAL BENEFITS CONSOLIDATION REGULATION	July 22nd, 2001	This regulation develops and specifies the objectives and tenets of Legislative Decree 688.
SUPREME DECREE 007-2002-TR LAW ON DAYS OF WORK, HOURS AND OVERTIME	July 4th, 2002	This law regulates days of work, hours and overtime in benefit of workers and proceedings for Peruvian labor authority and registries in order to organize quality and quantity of work hours. Finally, it sets the maximum days and hours of work, including for night work, and regulate overtime.
SUPREME DECREE 008-2002-TR REGULATION ON DAYS OF WORK HOURS AND OVERTIME	July 4th, 2002	This regulation develops and specifies the objectives and tenets of Supreme Decree 008-2002-TR.
LEGISLATIVE DECREE 25593 (TUO SUPREME DECREE 010-2003-TR) LAW ON COLLECTIVE LABOR RELATIONS	October 5th, 2003	This law regulates union's freedom, i.e., all those relations through which workers can bargain collectively for better working conditions or otherwise.
SUPREME DECREE 011-92-TR REGULATION ON COLLECTIVE LABOR RELATIONS	October 14th, 1992	This regulation develops and specifies the objectives and tenets of Law on Collective Labor Relations.
LAW 28806 LABOR INSPECTION LAW	July 22nd, 2006	This law aims to regulate the labor inspection system, its composition, organization structure, powers and duties in accordance with Convention 81 of the International Labor Organization.
SUPREME DECREE 019-2006-TR REGULATION OF LABOR INSPECTION SYSTEM	September 1st, 2007	This regulation develops and specifies the objectives and tenets of Law 28806.
LAW 26636 PROCEDURAL LABOR LAW	June 21st, 1996	This law regulates all the judicial procedures that workers and employers need to do in order to access justice.
SUPREME DECREE 039-91-TR INTERNAL REGULATION	December 30th, 1991	Every employer who employs more than 100 workers is required to have internal work regulations. The regulation must contain the main provisions of the labor regulations in force and will be approved by the administrative labor authority upon presentation. Workers who consider that the

Norm	Effective Date	Relevant articles demonstrating compatibility with the layout/implementation of the Project
		regulation violates legal or conventional provisions in force at the workplace may take legal action.

2.3.17 Occupational Safety Assessment (G3.12)

As mentioned above, concessionaires are not hired to be part of the project. The project team is hired for the execution of the project activities. This includes a team of around 25 people.

All REDD+ BN concessions team members have the necessary equipment to comply with the safety measures required to protect the integrity of the personnel from possible risks that may occur, especially during field trips. The project provides its workers with clothing such as vests, polo shirts, long-sleeved shirts so as not to expose the body to risks, sun hats to prevent burns and animal bites, boots, and raincoats. It also provides various personal protection equipment (PPE) such as helmets, safety glasses, backpacks, basic first aid kits, machetes with sheaths, flashlights, drones, GPSs, long-sighted, among others. In the case of vehicles, the project provides its team with motorcycles and vans for safe transportation, which have vehicle insurance policies and SOAT. In addition, they undergo permanent preventive maintenance.

The project has made a mapping of the possible risks of the project to prevent any occurrence and act appropriately in case of any event, following the due protocols. (See file Supporting Documents "Employee security")

Furthermore, at a company level BAM has analyzed the main legal framework related to occupational safety and has done a specific analysis of the main risks associated to its operations. As mentioned, BAM is committed to protect its employees, complying with the provisions of Law 31246 on occupational safety and health. In addition, BAM has an Occupational Health and Safety Regulation (See file Supporting Documents BAM Policies) which establishes and regulates the procedures to ensure the safety and health of its employees when carrying out their different jobs and activities. In the case of occupational accidents, a record is kept, and the area in charge is the Regional Direction (Project Director and Coordinator), which reports hierarchically to the General Management. As part of the action commitments established by BAM in its Corporate Sustainability Policy (See the folder "BAM Policies" in the supporting documents - Validation CCB 2022), it ensures a safe and healthy work environment, complying with current legislation in matters of occupational safety and hygiene and sexual harassment.

Workers are provided with manuals explaining the company's policies, practices and regulations, as well as the activities, methods and forestry techniques used, to ensure that all employees are fully aware of the company's management framework and that of its operations. Furthermore, employees undergo a training process where they are instructed on the different fronts of the project operations and are accompanied in a first stage by the leaders or people with more experience in the group. They are taught about the use of the tools or instruments to be used in the execution of the activities. In addition, in this training process, protocols and action plans are explained in the event of different scenarios such as a (possible) forest fire or the presence of illegal loggers. Courses on safety, first aid, and the use of appropriate protective equipment are also proposed.

2.4 Management Capacity

2.4.1 Project Governance Structures (G4.1)

Up to the verification of vintage 2020 (latest VCS verification), 405 concessionaires were included and verified as members of the project, same number as in the preceding verification period. As it is a grouped project, new concessionaires can join the project. However, the 405 are the members registered as part of the project that have been verified according to the standard.

The project's governance scheme is defined by the three parties involved: BAM, member BN concessionaires and FEPROCAMD.

- BAM

The project proponent. It is in charge of implementing project activities, undergoing certification processes for the accreditation of carbon benefits, marketing carbon credits, and distributing benefits among project members.

As part of its responsibilities, the company has formed a regional team specifically for managing the project *in situ*, besides the technical, commercial, and legal support from the Lima headquarters. The REDD+ Brazil Nut Concessions Project team is the direct responsible of developing the project activities, which include control and surveillance actions, training, socialization, forest management support, monitoring and reporting, among others. The project team is also responsible for the permanent coordination with FEPROCAMD and project members.

- FEPROCAMD

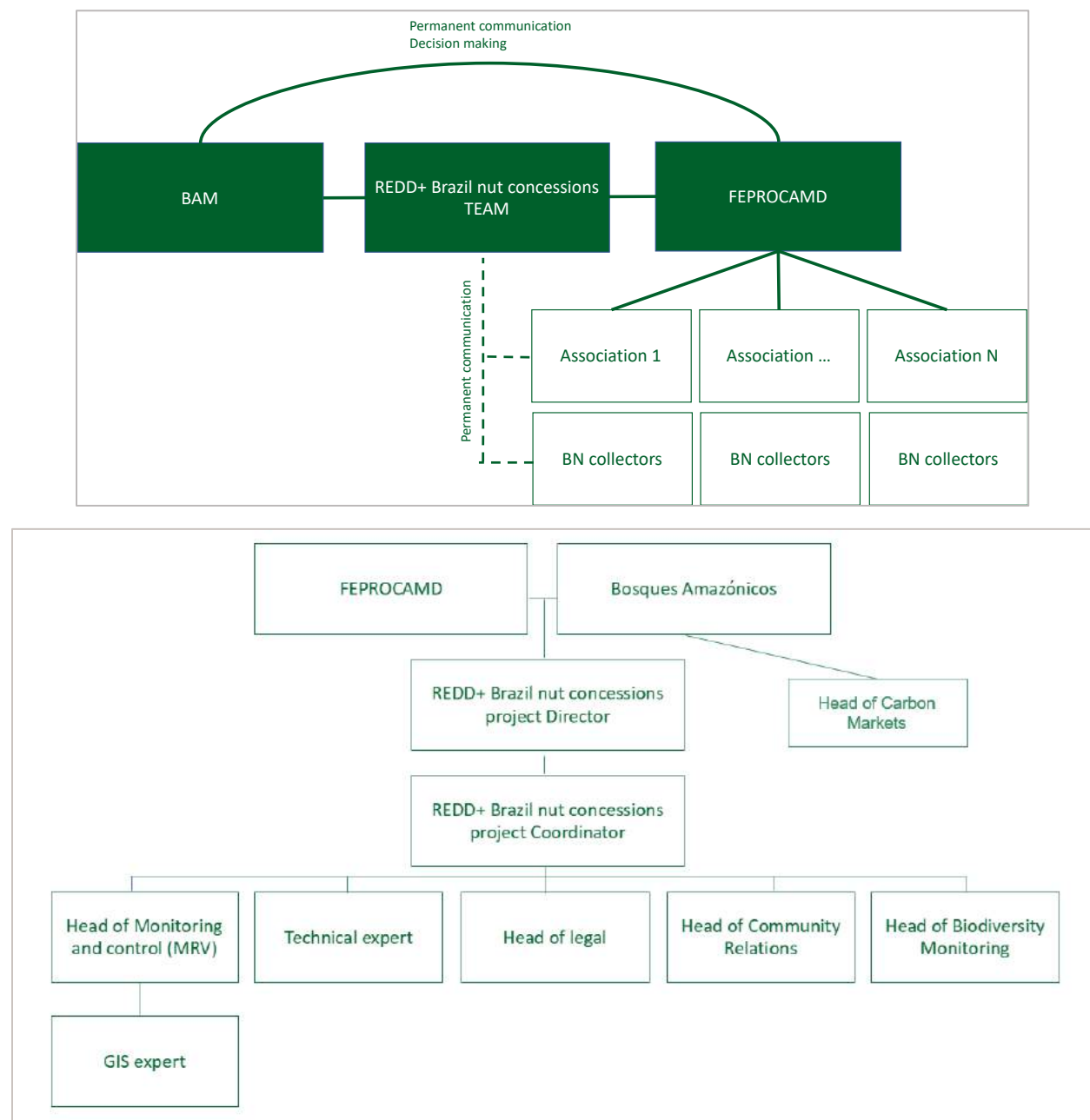
Project partner. The Federation is a registered organization. Its structure includes representatives of the various associations as well as a board of directors and president of the organization. Its role in the project is to represent the best interests of the BN concessionaires, support the communication between the project team and members, participate in the implementation of activities and/or lead the implementation of activities on behalf of BAM, and maintain the formal processes for decision making within the BN concessionaires.

- BN concessionaires members of the project

Project beneficiaries. They are the BN concessionaires who voluntarily decided to join the project. Their responsibility is to adopt the decisions made regarding the REDD+ project, of which the most important is the participation in project activities and the care for securing the long-term permanence of the project climatic outcomes.

The following figure shows the communication flows between BAM, the project team and FEPROCAMD and its grassroot associations. The second part shows in more detail the internal structure of the project team.

Figure 2.9. Project Governance Structures



In-house elaboration.

2.4.2 Required Technical Skills (G4.2)

The following key positions were identified as necessary for the project to be implemented:

a) REDD+ Project Director

Professional with knowledge/experience in the environmental business and forest environmental services, and the carbon market. Experience in managing environmental projects.

b) REDD+ Project Coordinator

Professional with experience in the development of forestry / conservation projects, with skills for project management in the different areas the REDD+ project requires for its optimal implementation. Preferably, a professional who lives in the region where the project area is located. In charge of the overall functioning of the project, reporting of results to BAM's headquarters and FEPROCAMD, establishing and keeping relations with public institutions and other organizations, and positioning of the project at the local and regional level.

c) Head of Monitoring and Control

Professional with Forestry Engineering education, with knowledge and experience in conservation and forest management/monitoring. In charge of putting in place the monitoring plan and processing and storing the information (evidence) generated during the activities.

d) GIS Specialist

Professional with experience in information development and geospatial calculations, including REDD+ projects in Peru. Specialist in geographic information systems and vegetation cover deforestation modeling analysis. In charge of generating and/or processing geospatial information for the monitoring and reporting activities. Also, support in other project activities such as delimitation/sanitation of project BN concessions, elaboration of management plans, etc.

e) Technical expert

Professional in forestry engineering or similar with experience in forest management, ideally in the management of timber concessions for timber or non-timber purposes. In charge of giving technical assistance to BN concessionaires (project and non-project partners) for the management of their forests, including the elaboration/update of management plans, introduction, and training of improved techniques, among others.

f) Head of legal

Lawyer with experience in environmental matters and management of forestry concessions for timber or non-timber purposes in the Amazon region, ideally. In charge of supporting project members in the sanitation of their concessions, and formal response and legal process against illegal activities affecting BN concessions.

g) Head of Community Relations

Professional with knowledge and experience in community work, community relations, participatory methodologies, socioeconomic analysis, and diagnostics. In charge of keeping the formal and informal channels of communication between the project, FEPROCAMD and project members, reception of complaints / claims and conflict solving, and supervising the development of the periodic social diagnosis/monitoring.

h) Head of Biodiversity

Professional with expertise in biological assessments, with knowledge in endangered species and in national and international laws that protects them. The candidate must have worked in biological monitoring and special habitat census. In charge of the biological monitoring and monitoring actions of the mitigation measures for biodiversity.

i) Carbon analysis and reporting

Professionals with expertise in developing Project Design Documents and Monitoring Reports under the VCS and CCB standards. In charge of drafting the official documents for validation and verification processes.

j) Head of Carbon Markets

Professional with expertise in business management and knowledge of carbon markets and carbon credits sales. In charge of marketing the project in national and international carbon markets and securing sales of the project carbon credits.

2.4.3 Management Team Experience (G4.2)

BAM staff has extensive experience in the design and implementation of AFOLU projects, successfully achieving validation and verification of those under VCS and CCB standards. The project has a team of experts dedicated to the implementation of the project activities, and to give permanent assistance and support to all concessionaires that are members of the project. This team includes people specialized in the different areas the project requires such as: monitoring control and surveillance system, technical and legal support, community relations, communications, development of productive value chains, etc.

The management experience of the professionals in key positions is:

- Founder and General Manager: Jorge Cantuarias

Jorge has more than 25 years of experience working in the development of projects in the Peruvian rainforest with emphasis on forestry operations. His vision to develop sustainable businesses has led him to be a reference in reforestation programs in Peru and a pioneer in the carbon market in the world. He founded Bosques Amazónicos BAM in 2004 and since then has led it to become one of the leading forestry and environmental services companies in the country. Jorge holds a degree in Economics from the University of Lima, where he also studied law.

- Conservation and Carbon Markets Manager: María Alejandra Cantuarias

María Alejandra holds a Bachelor's degree in Business Management from Universidad del Pacífico, Peru and a Master's degree in Economic Psychology, Behavioural Science, from the London School of Economics LSE, London UK. After specializing in business consulting and economic systems, Maria Alejandra joined BAM in 2019 to complement the REDD+ and Carbon Markets project team. Since then Maria Alejandra leads the aforementioned area, ensuring the correct registration and development of BAM's conservation projects under the international standards and markets. María Alejandra is also responsible of the commercial side of BAM's carbon business, maintaining the relationship with the client portfolio and ensuring the positioning of BAM and the projects among its different audiences.

- Project Director in Madre de Dios: Eduardo Galindo

Eduardo has worked for more than 10 years in the commercial area of Bosques Amazónicos, where he has been able to experience the growth and development of the voluntary carbon market, managing to place more than 05 million carbon credits from BAM projects among the most important companies in the world. With the experience gained and the company's expansion plans, he is entrusted with the management of REDD projects being developed in the Madre de Dios region, combining actions to protect and conserve the forests of the Amazon with the social development of forest users and the conservation of biodiversity. Eduardo is an IT specialist graduated from Tecnológico Cibertec.

- Project Coordinator in Madre de Dios: William Moreno

William is a Forestry Engineer from the Universidad Nacional Agraria la Molina, with specialization in Agricultural Business Management; Environmental Law and Environmental Management. Since 2021, in charge of the management for the implementation of the activities stipulated in the REDD+ projects in the region, in coordination and articulation with stakeholders. He has more than 20 years of experience in forest conservation, climate change, strengthening and development of productive activities such as timber and non-timber forest and alluvial gold mining, with articulation to markets complying with international standards. Formerly responsible for office and projects in MINAM, NGO Solidaridad, NGO CAMDE Peru, NGO ACCA and the National Forestry Chamber and Dean of the Departmental Council of Madre de Dios of the College of Engineers of Peru.

- Head of Monitoring and Control: Walter Flores Casanova

Walter is a Forestry Engineer with a Masters in Ecology and Environmental Management at UNSAAC, with more than 13 years of experience in management and conservation of Amazonian forests, specialist in taxonomic identification of wild flora species, also, experience in university teaching in Dendrology, Forest Taxonomy, Dendrometry. In recent years he has developed monitoring, control and surveillance of concessions using satellite platforms, technological tools (Drone, GPS, App), which report hot spots or deforestation, seeking through the involvement of concessionaires the monitoring and conservation of forests.

- GIS Expert: Carlos Huamán

Carlos holds a Bachelor's degree in Forestry Engineering from Universidad Nacional Agraria La Molina and a Master's degree in Environmental Sciences - UNALM. Specialist in Geographic Information Systems (GIS) with more than 10 years of experience, as well as experience in monitoring, image processing and forest conservation. Carlos has experience using GIS tools and software such as ArcGIS and QGIS to collect, analyze and visualize geospatial data. Carlos' focus has been on conservation and sustainable forest management, generating thematic maps, performing spatial pattern analysis and providing accurate information to support decision making. Keeping up to date on the latest trends and advances in GIS technology.

- Technical Expert: Ronal Cisneros Castro

Ronal is a Forestry and Environmental Engineer from the National Amazonian University of Madre de Dios - UNAMAD, with more than 13 years of experience in the forestry sector, on issues concerning forest management, in timber and non-timber forest concessions, with forest management certification, planning and monitoring of inventories, forest management and census, implementation of nurseries, chain of custody, community relations, timber forest harvesting, reduced impact logging (AIR). In addition, experience in formulation and implementation of management documents such as: Operational Plans, Declaration of Management, formulation of Intermediate Forest Management Plans, Forestry Execution Reports, opening of boundaries. As well as GIS management, elaboration of maps with satellite images, and also the elaboration of releases to the forestry authorities.

- Head of legal area: Raul Andy Huanaco Huanca

Raul is a lawyer from the National University of San Antonio Abad del Cusco - UNSAAC, with masters in criminal law and university pedagogy, with specialization studies in governance and environmental law, natural resource management and environmental impact assessment, with more than 15 years of work experience in the forestry field, providing advice to the public and private sector, applied to the field of administrative law and criminal law. The focus is to provide

an efficient service of legal advice adjusted to the application of the current regulations, allowing the strengthening not only of the capacities of the beneficiaries, but also the resolution of legal conflicts arising from the management of natural resources.

- Head of Community Relations: Sebastian Llerena

Sebastian holds Bachelor's degree in Communication from the Universidad de Lima in Perú. He also has a Master's degree in Interdisciplinary Sustainability Studies with a specialization in Ecological Economics from the Universidad Autónoma de Barcelona in Spain. Other academic experiences include studies in social and environmental considerations for investment projects at the JICA Center, in Tokyo, Japan. Sebastian's professional experience centers around the analysis, communication, and management of socio-environmental impacts, conflicts, and participatory processes in intercultural contexts around Peru.

- Head of Biodiversity: Walter Wust

Walter has more than thirty years of leading biological diversity assessment programs on the coast, the Andes, and the Peruvian Amazon. His publications—more than 600 books and guides—have led him to be the most important author on nature, culture and sustainable resource management experiences in the country. He is currently member of the Directing Council of SERNANP, ACCA, IBC, Líderes+1, and CCERO. Mr. Wust is the founder of the new engineering and environmental management career at the Peruvian University of Applied Sciences, UPC. Walter holds a bachelor's degree in Forestry Engineering from the La Molina National Agrarian University.

The technical team in charge of implementing the project combines different profiles with more than 20 years of experience in managing Tropical Natural Forests, in forest plantations, and implementing REDD+ projects in the Peruvian Amazon (See file Supporting Documents Team Experience).

2.4.4 Project Management Partnerships/Team Development (G4.2)

The Project Team dedicated to the implementation of the project activities comprises a skilled, technically knowledgeable group that meets the needs of the project, regarding its management, implementation and monitoring.

For the carbon certification (validation and verifications), the team draws on the support of PASKAY, a national consulting company that has extensive experience in the development of forestry projects registered in the carbon market.

PASKAY is led by Jorge Torres Padilla, an economist with more than 22 years working on the design and development of forest carbon projects, including reforestation and REDD under VCS and CCB standards, with the additional experience of FSC sustainable forest management projects (the first two FSC certification processes, one for Brazil nut harvesting and the other for logging with indigenous communities), among others. In his former days in BAM, he was the technical manager in charge of developing the present REDD+ project. The team also includes specialists in carbon accounting, remote sensing, social and legal areas, that have participated in the design and certification process of at least one additional REDD+ Project in the Peruvian Amazon.

2.4.5 Financial Health of Implementing Organization(s) (G4.3)

BAM is the implementing organization of the Project. The company's audited Financial Statements are public and will be shared with the auditors and VERRA during the verification process. BAM's financial health is supported on:

- Real assets: BAM has a private property of 24,544 hectares in Ucayali, Peru, and a forest plantation (biological asset) of +1,200 hectares which backs its operations as real assets.
- Short-term income streams: having developed a commercial experience of more than 10 years in the market, BAM generates short-term cash flows through the commercialization of carbon credits generated by its projects to cover its operations.
- Long-term flows: BAM manages a commercial plantation for more than 12 years, which has begun to be sustainably harvest. The commercial species of the BAM plantation, mainly marupa and shihuahuaco, are forest species with an excellent market price, which ensures an additional revenue stream for the company.
- Capital Markets: BAM is the first forestry company in Peru to enter the Lima Stock Exchange, successfully placing thematic debt instruments (green/sustainable) in the market. In 2021 alone, Bosques Amazónicos placed around US\$17 million in the capital market, fulfilling all its financial responsibilities, and maintaining an excellent relationship with its investors. Likewise, BAM is the first company in LATAM to certify a green debt instrument under the Climate Bonds Standard of the Climate Bonds Initiative (CBI). The company and its financial health are supervised by the Superintendence of the Securities Market, a decentralized public body attached to the Ministry of Economy and Finance of Peru.

2.4.6 Avoidance of Corruption and Other Unethical Behaviour (G4.3)

Within its Internal Rules of Conduct Chapter VII, 7.3 reporting and reporting of irregularities (See file Supporting Documents BAM Policies), BAM encourages its employees and business partners to report in good faith, or based on a reasonable belief, the attempt of bribery, alleged or actual, or any violation or breach of the Rules of Conduct. Any complaint or query related to any suspicion of non-compliance with these rules may be submitted anonymously, through email channels or web page, protecting the complainant. Likewise, an internal regime of sanctions is established for those who fail to comply with what is indicated in the Internal Rules of Conduct. Any person who is under the scope of the Regulations will receive a copy of said document, recording its receipt in writing, as a sworn statement, in the sense of having received it and committing to read it carefully, understand it and comply with it. The same procedure will be followed with any person who obtains a position in the company, who will also be explained the principles and fundamental values contained in such Rules during the activities induction in which they participate.

The company applies for the development of its activities, policies for the prevention of money laundering and financing of terrorism, which is established in its Corporate Governance Policy (See file Supporting Documents BAM Policies) taking as reference the provisions set forth in the Prevention Rules of Money Laundering and Financing of Terrorism issued by the Superintendency of the Securities Market (PLAFT Regulations), without prejudice to not being an entity supervised by any of the regulatory bodies. In this sense, the company operates under the following directives:

- Not participate and in no way assist in money laundering and financing of terrorism, having as its main commitment to abide by and comply with the regulations on the matter.

- The directors, managers and all company personnel are committed to complying with the PLAFT Standards through the application of the policies described in the Risk Management System document.
- The company will offer its support to the competent authorities through the provision of information that they require for investigation and analysis purposes.

The company, in accordance with the provisions of the PLAFT regulations, considers prohibited operations those that imply the following:

- Customers who receive transfers from countries considered non-cooperative by the FATF, with risk related to money laundering and financing of terrorism, with little banking supervision, or from countries included in the OFAC list.
- Clients acting through trusts without identifying the identity of the settlor, trustee, and trustees.
- Politically exposed persons (PEP) or who manage public resources. It is not considered a PEP when acting on behalf of a legal person participating in the State.
- Legal entities in which a PEP owns at least 5% of the capital stock, contribution, or participation and that, according to the reporting entity, poses a high risk of money laundering or financing of terrorism.

BAM is an organization in which all the processes that are carried out for the hiring of personnel and service providers avoid nepotism and favoritism. As part of its Corporate Sustainability Policy (See the folder “BAM Policies” in the supporting documents - validation CCB 2022) it accepts to support the principles of the United Nations Global Compact, in the fight against corruption.

2.4.7 Commercially Sensitive Information (Rules 3.5.13 – 3.5.14)

Information regarding Financial Statements, commercial contracts and sales will be available and shared with audit team during validation/verification process.

2.5 Legal Status and Property Rights

2.5.1 Statutory and Customary Property Rights (G5.1)

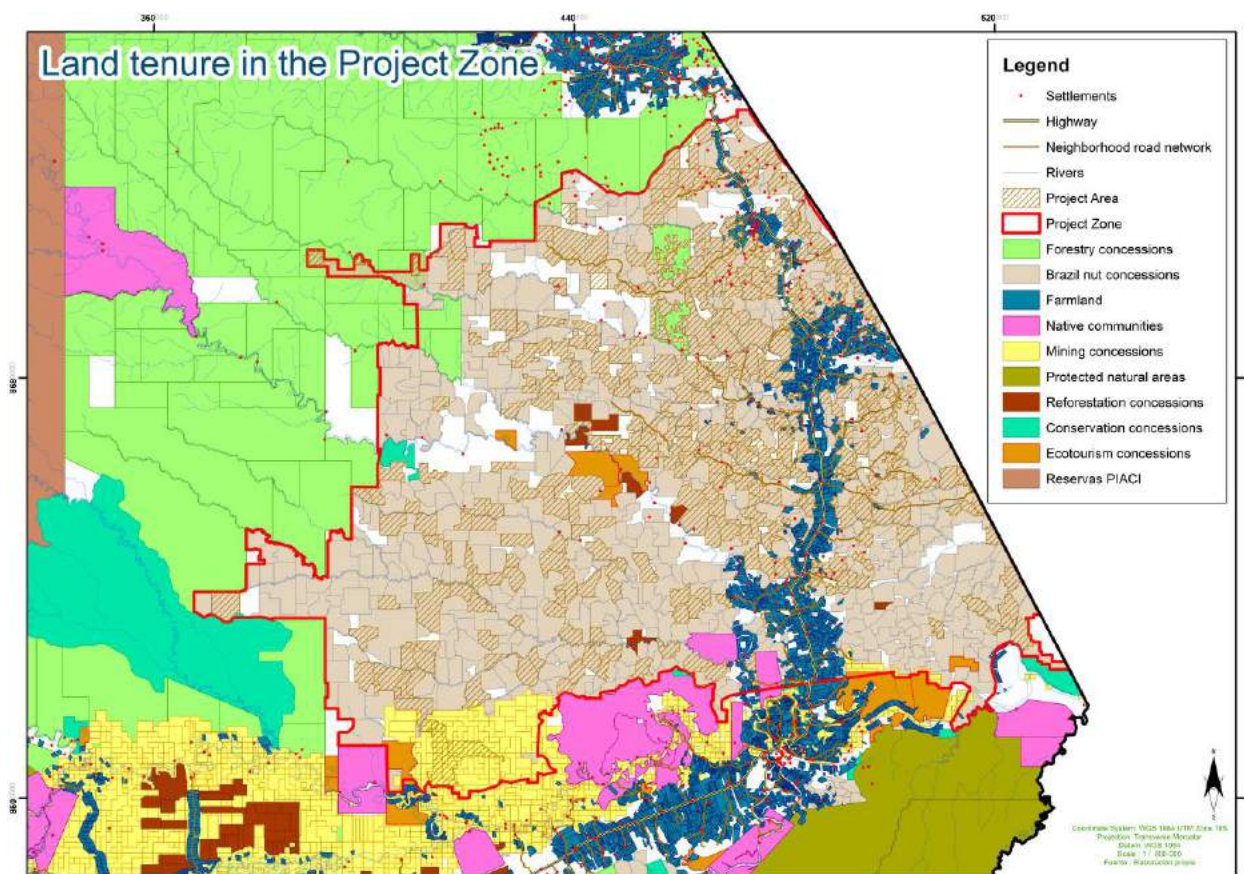
The forest concessions granted to Brazil nut producers have no conflicts, neither with other legal rights nor with consuetudinary rights of ancient traditional communities. The project area has been used for non-timber forest products NTFP collection for many decades, so there are no other disputed rights over this area. It should be recalled that these concessions were granted in 2002 and 2003 over former Brazil nut forest areas. In most cases, these areas were already managed by the same individuals beforehand.

In this sense, it must be mentioned that non-timber forestry concessions are granted in State's forest lands through enabling titles, as is the case of Brazil nut concessions. This State land is considered patrimony of the Nation in accordance with Articles 4 and 5 of the Forest Law and Wildlife, Law No. 29763. Consequently, concessionaires acquired the rights of use, access, management, and commercialization over an area of the State for 40 years. This means, this land belongs to the State, but the rights of use, management, and commercialization of ecosystem services (such as carbon sequestration) belong to the concessionaire during this 40 years period. After this period, the State can renew the concessionaire's rights or revert management rights. Concessionaires' rights are granted through a concession contract granted by the State, in accordance with Article I of the same Law (see section 2.5.2).

As shown in Map 2.13, there are different types of land tenure in the Madre de Dios region: a significant portion of the region is legally protected with the creation of Natural Protected Areas while another significant portion of its territory has been granted to the community as forest concessions.

The project area belongs to forestry concessions (non-timber forest products such as Brazil nuts). There are also agricultural plots (titled and untitled) and settlements in the areas adjacent to the Inter-Oceanic Highway.

Map 2.13. Different land tenure in the Project Zone



Source: Multiple divisions within the Madre de Dios Regional Government and other institutions. In-house elaboration.

2.5.2 Recognition of Property Rights (G5.1)

The project area was granted by the Peruvian State to rural families in Madre de Dios for non-timber forest extraction since 2002 (see file Supporting Documents - Brazil nut partners contracts). This area was traditionally used by the same families for such activity since the 1940s, through different legal frameworks (the description of the history of Brazil nut producers in Section 4.1.1).

According to Peruvian legal framework, forest concession contracts are enabling titles that includes the right to environmental services as clearly described in Section 2.5.7. Specifically, the Forestry and Wildlife Law acknowledges the exclusive right to “the possession, access, use and benefit of ecosystem services” to indigenous peoples (article 76) and forest holders (article 60).

In that sense, no property rights different than those belonging to Brazil nut producers need to be recognized or are affected by the REDD project.

2.5.3 Free, Prior and Informed Consent (G5.2)

The FPIC in the case of the project was developed in its initial stages in the years 2009-2010-2011, after an extensive process of socialization, awareness raising and training the Brazil nut concessionaires signed the contracts of rights session (see file Supporting Documents – Stakeholder Consultation). In fact, within the universe of Brazil nut concessionaires in the region grouped in the FEPROCAMD, there are both partner and non-partner concessionaires of the REDD+ Brazil nut concessions project. After a process of socialization (with the participation/support of FEPROCAMD and the associations) and mutual agreement, only those who voluntarily want to participate in the project are incorporated as partners of REDD+ Brazil nut concessions project.

The territory occupied by the forest concessions was and is free of indigenous communities and other forest users (other possible stakeholders) as observed in Map 2.13. It is stressed that the entire project area is on BN concessions (see file Supporting documents – Brazil nut partners contracts), therefore there were no forced or voluntary displacements, neither was there any encroachment on the property of third parties (State, communities or private). In these stages of socialization, the invitation was also extended to other stakeholders such as local authorities, opinion leaders and civil society organizations. The whole project area is composed by legally granted forest concessions (see file Supporting documents – Brazil nut partners contracts).

No land reallocation was or will be required.

2.5.4 Property Rights Protection (G5.3)

Law No. 29763 of July 11, 2011, set up areas or polygons of territory that were granted to these Brazil nut growers as non-timber forest concessions and set up a land management system in areas belonging to the Peruvian state without affecting areas belonging to any private owner or native community.

The project strengthens and protects the concession rights of the Brazil nut growers through the activities it has been implementing (legal assistance and technical assistance in boundary marking, signaling, demarcation and monitoring; compliance with commitments established in the concession contracts; organizational strengthening; surveillance and control; and promotion of productive activities, among others), all of which are aimed at preventing deforestation and conserving natural forests.

The project protects and strengthens Brazil nut growers' concession rights, as can be observed in the theory of change matrix (table 2.15), by strengthening their capacities in the monitoring and sustainable management of their forest, as well as by providing them with the necessary tools to comply with the requirements established by law in their concession contracts. Through activities such as: legal assistance and technical assistance in boundary marking, signaling, demarcation and monitoring; compliance with commitments established in the concession contracts; organizational strengthening; surveillance and control; and promotion of productive activities, among others), which are aimed at avoiding deforestation and conserving natural forests (see file Supporting Documents – project activities).

2.5.5 Illegal Activity Identification (G5.4)

The project area faces the risk of occurrence of different types of illegal activities, for which the proposed project activities are meant to reduce it, as may be seen in the next table.

Table 2.24. Illegal Activity Identification

Illegal activity	Measures taken to reduce the risk
Illegal logging	▪ Monitoring Control and surveillance system ▪ Permanent technical and legal support ▪ Community training and involvement for identification, reporting and control of deforestation and/or degradation threats ▪ Cooperation with regional authorities. ▪ Providing community with access to sustainable revenue streams (sustainable productive activities)
Invasion / settlements	▪ Monitoring Control and surveillance system ▪ Permanent technical and legal support ▪ Community training and involvement for identification, reporting and control of deforestation and/or degradation threats ▪ Cooperation with regional authorities. ▪ Providing community with access to sustainable revenue streams (sustainable productive activities) ▪ Demarcation and ordering of concessions
Illegal mining	▪ Early alert system ▪ Monitoring Control and surveillance system ▪ Permanent technical and legal support ▪ Community training and involvement for identification, reporting and control of deforestation and/or degradation threats ▪ Cooperation with regional authorities. ▪ Providing community with access to sustainable revenue streams (sustainable productive activities)
Agrarian expansion	▪ Early alert system ▪ Monitoring Control and surveillance system ▪ Permanent technical and legal support ▪ Community training and involvement for identification, reporting and control of deforestation and/or degradation threats ▪ Cooperation with regional authorities. ▪ Providing community with access to sustainable revenue streams (sustainable productive activities) ▪ Demarcation and ordering of concessions ▪ Community training in sustainable forestry management
Forest fires	▪ Early alert system ▪ Monitoring Control and surveillance system ▪ Permanent technical and legal support ▪ Community training
Illegal hunting	▪ Community training in biodiversity conservation ▪ Communication efforts around biodiversity conservation ▪ Cooperation with regional authorities and/or other organizations ▪ Legal support

Illegal activity	Measures taken to reduce the risk
Illegal extraction of non-timber forest products	▪ Early alert system ▪ Monitoring Control and surveillance system ▪ Permanent technical and legal support ▪ Community training ▪ Providing community with access to sustainable revenue streams (sustainable productive activities)

No project benefits are derived from illegal activities.

2.5.6 Ongoing Disputes (G5.5)

The area has no unresolved legal conflicts or disputes over rights as they are only granted for Brazil Nut harvesting purposes.

In some cases, concession boundaries may not be clearly defined (between Brazil Nut concessionaires with other Brazil Nut concessionaires, or with agricultural plots, mainly). For this reason, the project provides support to partners to promote formal agreements between neighbors regarding such boundaries, establishing physical landmarks and promoting the signing of bilateral agreements that are converted into dossiers to be submitted to the forest authority. All of these files are stored in the project offices.

2.5.7 National and Local Laws (G5.6)

Table 2.25. National and Local Laws

Law	Legal analysis
Peruvian Constitution	According to article 66 of the Peruvian Constitution, concessions grant its holders a <i>right in rem</i> over the granted area. That is, domain power is granted by the Peruvian State through the enabling title and the corresponding contract (forest concession contract). The State granted concessionaires the right to use forest resources, including ecosystem services such as carbon capture, and the right to own benefits from ecosystem services generated from the management of their forest concessions. Accordingly, in case a third party affects the concession area, the concessionaire has legal remedies to protect its rights.
General Environment Law, Law No. 28611	According to article 92, the “State promotes the sustainable use of forest resources and wildlife, as well as the conservation of natural forests”. Besides, “the State promotes and supports the sustainable management of wild fauna and flora, prioritizing the protection of endemic and endangered species and varieties, based on technical information, scientific, economic and traditional knowledge”. In this framework and to achieve those goals, the State recognizes in article 94 that “natural resources and other components of the environment perform functions that allow maintaining the conditions of the ecosystems and the environment, generating benefits that are used without mediate remuneration or

Law	Legal analysis
	compensation, for which the State establishes mechanisms to value, remunerate and maintain the provision of said environmental services, seeking to achieve the conservation of ecosystems, biological diversity and other natural resources". The State recognizes that mitigation of green gas emissions is considered environmental services (article 94.2). Thus, to achieve those conservation forest goals, "the National Environmental Authority promotes the development of mechanisms for financing, payment, and supervision of environmental services", such as those developed in this project.
National Environmental Policy approved by Supreme Decree No. 12-2009-MINAM	The elaboration of the National Environmental Policy is a mandate that comes mainly from the Political Constitution of Peru and the General Environmental Law, constituting a set of guidelines, objectives, strategies, and instruments of a public nature that have the purpose of defining and orienting the actions of the entities of the National, Regional and Local Government, the private sector and the civil society, in environmental matters. The National Environmental Policy is divided into 5 objectives, 4 policy axes, and specific objectives and guidelines for each policy. One objective of the National Environmental Policy relevant to the Project is to achieve the conservation and sustainable use of the country's natural heritage, with efficiency, equity, and social welfare, prioritizing the integrated management of natural resources. The environmental services are identified within the National Policy of the Environment in diverse points, indicating the necessity to foment its economic valuation through economic and financial instruments, emphasizing the importance of implementing systems of conservation of forests and protection of such as far as the degradation and deforestation.
Organic Law for the sustainable use of Natural Resources, Law No. 26821	According to article 8, "the State shall ensure that the granting of the right to the sustainable use of natural resources is carried out in harmony with the interest of the Nation, the common good, and within the limits and principles established in this Law, in special laws and regulatory norms on the matter". On the other hand, article 20 confirms that "all use of natural resources by individuals creates financial retribution that is determined by economical, social and environmental criteria. The financial retribution previously mentioned, includes any concept that must be contributed to the State for the natural resource, whether as compensation, right of granting, or right of validity of the title containing the right, established by special laws. Likewise, article 23 establishes that the concession grants the concessionaire the right to the sustainable use of natural resources, including ecosystem services such as carbon capture, under the conditions and terms established in the concession title (i.e., in the concession contract).

Law	Legal analysis
Forest and Wildlife Law No. 29763	Article 51 of Law No. 29763, establishes that, through the concession, the State⁴³ grants in areas of public domain the right to sustainably use natural forest resources and the right to use and enjoy such natural resources, including ecosystem services. The same article states that concessions grant rights over the fruits and products legally extracted, as well as all types of activities, including the production of timber and non-timber forest products, the development of ecotourism or conservation activities, as well as ownership of the economic benefits from ecosystem services arising from their concessions management. In the case of forest concessions with an enabling title, this ownership is explicitly established in article 60 of Law No. 29763, which states that the holder has the right to the economic benefits from the ecosystem services derived from its management; and in article 52 of the same Law, which establishes that the holders of forest concessions become holders of the rights for the provision of ecosystem services. It must be highlighted that article 109 of Law No. 29763 confirms that the benefits from the economic use of forest ecosystem services are part of the enabling titles (i.e., forest concessions). To do so, concessionaires shall have a concession management plan approved by the authorities, according to article 52 of Law No. 29763. This article states that holders of forest concessions become holders of rights for the provision of ecosystem services provided that they comply with the commitments and conditions of the management plan approved by the forest authority. In this framework, all concessions participating in the project comply with these legal requirements: they have updated forest concession contracts and they have updated, or are in the process to update current, management plans. Regarding it, it must be mentioned that BAM and FECOMAD will ensure that all concessions participating in the Project have their concession contracts and management plans approved and updated according to the Peruvian law (this obligation is included in the contract signed between BAM and FECOMAD as well as in the contracts signed between the concessionaires and FECOMAD).
Regulation for forest management approved by Supreme Decree No. 018-2015-MINAGRI	This regulation establishes that, through the forest concession contracts⁴⁴ approved by the Peruvian State, concession holders are granted the right to use and enjoy natural resources, including ecosystem services such as carbon capture, and the right to receive the economic benefits from the ecosystem services generated from the forest sustainable management of their concession areas. Article 56 establishes that "The same holder may carry out the management and harvesting of forest and wildlife resources, including activities of (...) harvesting of forest ecosystem services

⁴³ In Peru forest concession titles are granted by regional governments.

⁴⁴ Concession contracts can be timber or non-timber: ecotourism concessions, conservation, other forest products, and afforestation and reforestation contracts granted under the previous Forestry and Wildlife Law.

Law	Legal analysis
	(...), in a complementary manner, as long as the main purpose of the enabling title is not distorted and it is included in the forest management plan". The use of ecosystem services such as carbon capture does not distort the enabling titles. Also, article 42 confirms the following are rights of the holders of the enabling titles of forest concessions: i) sustainable use of the forest and wildlife resources covered by the granted title, without prejudice to the development of complementary activities compatible with the zoning and management of the area, directly or through third parties, by the management plan approved by the competent authority (including ecosystem services); ii) access to the benefits of the retribution mechanisms for forest ecosystem services and other wild vegetation ecosystems, by the provisions of the regulations on the matter; iii) usufruct rights to the fruits, products, and by-products legally obtained as a result of the exercise of the enabling title; iv) right to sell or deliver the fruits, products or by-products, present or future, that are in the approved management plan. Besides, to support concession holders to fulfill the legal requirements related to their concessions, the project is reviewing all forest concession contracts and their forest management plans and will keep reviews on an ongoing basis. A Contingency Protocol will be implemented to provide information to the Project's Governance Committee and to take all needed measures to ensure support and monitoring of forest concessions and the fulfillment of legal requirements. Finally, regarding the fulfillment of legal requirements by the concessionaires, OSINFOR⁴⁵ guarantees compliance with the abovementioned legislation and legal requirements.
Prior Consultation Law. Law N° 29785	The implementation of this project does not constitute an administrative or legislative measure and, consequently, it does not require a prior consultation process by Article 1 of the Prior Consultation Law.
Law No. 27783 Law on the Bases of Decentralization	It regulates the structure and organization of the State in a democratic, decentralized, and deconcentrated way, corresponding to the National Government, Regional Governments, and Local Governments. It also defines the rules that regulate administrative, economic, productive, financial, tax, and fiscal decentralization. Likewise, this law establishes the competencies of the three levels of government and determines the assets and resources of the regional and local governments; and regulates the relations of government at its different levels. Article 36 mentions shared competencies, one of them being the promotion, management, and regulation of economic and productive activities in their scope and level, corresponding to the different sectors, including the environmental sector.

⁴⁵ In its function of supervising forest management plans and duties included in the forest concession contracts.

Law	Legal analysis
Law No. 27867 Organic Law of Regional Governments	Law that, in its sections 9 and 10, establishes constitutional, exclusive, and shared competencies to Regional Governments in environmental matters to promote and regulate activities or services in the environmental sector. They also establish exclusive competencies to promote the sustainable use of forest resources and biodiversity; and shared competencies for the sustainable management of natural resources, the improvement of environmental quality, and the preservation and administration of regional reserves and natural protected areas. Article 53 of the same law establishes the functions of the regional governments in environmental and land-use planning matters. For the Regional Governments to be able to exercise the competencies assigned by this law, a process of transference of those competencies must be followed, which has the objective of accrediting that this level of government has the institutional capacities to assume them.
Ministerial Resolution N° 0301-2010-AG	This Resolution declares the conclusion of the Process of Effectivization of the Transfer of the specific functions in agrarian matters outlined in paragraphs "e" and "q" of the Regional Government of the Department of Madre de Dios established by Article 51 of the Organic Law of Regional Governments referred to Develop surveillance and control actions to ensure the sustainable use of natural resources under its jurisdiction. As well as granting forestry permits, authorizations, and concessions in areas within the region, as well as promoting and supervising in strict compliance with the national forestry policy.

2.5.8 Approvals (G5.7)

The project has been validated under the VCS standard accomplishing all the proof of title criteria since 2012 and has been successfully verified permanently since that year. The project also achieved CCB standard (gold level) in 2014.

According to the Peruvian legal framework, no specific and explicit approval from Peruvian Government is requested for project implementation and carbon trading.

The authorization of the project derives from the Brazil nut concession contracts that have been granted and signed by the Peruvian authorities and have been adapted to the Forest Law and Wildlife, Law No. 29763, which grant the right to use, access, management, enjoy benefits and commercialization of carbon.

In terms of project approval from appropriate authorities, it should be noted that article 110 of Law No. 29763 establishes, as the only obligation, to notify the decision to economically take advantage of ecosystem services such as carbon to the Environmental Authority. Regarding this communication to the Environmental Authority, we inform that there is a continuous communication between the project and the Environmental Authority, which can be verified by the letters sent by the Environmental Authority greeting, among others, the implementation of the project, as observed in Letters No. 00011-2009-MINAM-VMDERM and No. 00003-2023-MINAM-VMDERM/DGCCD, provided as evidence.

2.5.9 Right to Claim Benefits (G5.8)

Brazil nut producers, as holders of the enabling titles which authorize the use of forest resources, including ecosystem services such as carbon sequestration, have signed a carbon rights assignment contract with FEPROCAMD under the Peruvian Civil Code rules, in which they have granted all their carbon rights to FEPROCAMD. In turn, FEPROCAMD has signed a contract of the same nature (carbon rights assignment contract) with BAM, in which they have granted all carbon rights to BAM, including rights to develop and manage the project activities and to gather the benefits from the sale of the carbon credits. Both contracts include an appropriate system of distribution of benefits agreed upon by all parties. This system of distribution of benefits has been broadly socialized with the concessionaires and FEPROCAMD.

In addition, over the years and through rigorous audits, the project and the project proponent have demonstrated compliance with all national legal requirements and VCS&CCB specific standards for registering certified emission reduction units (carbon credits).

2.5.10 Other Programs (G5.9)

The project does not participate in any Emission Trading Programs and Other Binding Limits, nor other forms of environmental credit or other GHG program.

2.5.11 Double Counting (G5.9)

The project ensures not to sell verified reductions in more than one market, voluntary or compliance. Each sale are registered in VERRA Registry, where each VCU has a unique code for transactions.

Currently the Ministry of Environment of Peru (MINAM), through the Climate Change and Desertification General Direction, the focal point for REDD in front of the UNFCCC, has announced that a Mitigation Measures National Registry will be launched to record all the reductions generated by the different initiatives, including the REDD projects. Once it is in place, the project will do what is required to be incorporated in it.

3. CLIMATE

The Project was validated under VCS in 2012, for a 40-year lifespan. The first crediting period started on January 1, 2010, with a duration of 10 years (until the end of 2019) during which the validated baseline must remain fixed. Likewise, the verification of all the vintages between 2010-2019 was carried out successfully.

In 2019, the Project was granted the permission from MINAM (Letter No. 00011-2009-MINAM-VMDERM) to extend its baseline until year 2020; measure that was approved by VERRA. This allowed the project to use the same validated baseline for the verification of VCUs from the 2020 vintage. A subsequent permission from MINAM was also granted for year 2021 (Letter No. 00003-2023-MINAM-VMDERM/DGCCD).

For period 2021 onwards, the project has not yet renewed its accreditation period as it would require a reassessment of the baseline, being in the context that the Peruvian process of nesting REDD+ projects to the national FREL is in full process but has not been concluded, hence, rules and procedures have not yet been approved. Once there is clarity or indications on how to renew the

crediting period from the national and VERRA's sides, the Project will undergo the revalidation process under VCS. Until then, the baseline presented in the VCS's Project Document shall be considered, hence, a brief summary of results is presented in this Section. For a more detailed review, please refer to:

- Project Design Document validated under VERRA
https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=45286&IDKEY=8903q4jsafkasjfu90amnmassdfkaidflnmf9348r09dmfask62449394
- Project information in VERRA's registry
<https://registry.verra.org/app/projectDetail/VCS/868>

The supporting documents from the 2012 validation and 2010-2020 verifications could be provided to the auditing team, if needed.

Methodology used

The Project was designed following the procedures and requirements of the VM0007 REDD+ Methodology Framework v1.1 (REDD+ MF), which allows the quantification and monitoring of Avoided Unplanned Deforestation. It has a broad scope as it includes provisions for AUDD, APD, ARR and RWE activities, for which it is composed by several Modules and Tools that provide specific procedures on baseline estimation, carbon pools and GHG sources to be considered, leakage, among others. Considering the type of project (AUDD), the following applicable Modules and Tools were selected:

- Modules:
 - VMD0001 Estimation of carbon stocks in the above- and belowground biomass in live tree and non- tree pools (CP-AB), v1.0.
 - VMD0005 Estimation of carbon stocks in the long-term wood products pool (CP-W), v1.1.
 - VMD0007 Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation and unplanned wetland degradation (BL-UP), v2.0.
 - VMD0010 Estimation of emissions from activity shifting for avoided unplanned deforestation (LK- ASU), v1.0.
 - VMD0013 Estimation of greenhouse gas emissions from biomass burning (E-BB), v1.0.
 - VMD0014 Estimation of emissions from fossil fuel combustion (E-FFC), v1.0.
 - VMD0015 Methods for monitoring of greenhouse gas emissions and removals (M-REDD), v2.0.
 - VMD00016 Methods for stratification of the project area (X-STR), v1.0.
 - VMD0017 Estimation of uncertainty for REDD project activities (X-UNC), v1.0.
- Tools:
 - EB_31A/R Methodological tool "Tool for testing significance of GHG emissions in A/R CDM project activities" v1.0.
 - Tool for AFOLU non-permanence risk analysis and buffer determination (T-BAR), v3.0.

- VT001 Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities (T-ADD), v1.0

The applicability conditions of each module/tool are described in Section 2.2 of the Project's VCS PD. Also, the versions used were those in force at the time of validation.

Carbon Pools and GHG Emission Sources

By using the Module CP-AB, it was possible to select the appropriate carbon pools for the Project. This selection also included the use of Module T-SIG for determining non-significant pools, like dead wood. The following table presents the status and justification for inclusion/exclusion of carbon pools.

Table 3.1. Carbon pools considered in the Project

Carbon Pools	Included / Excluded	Justification
Above-ground biomass (AGB)	Included	Carbon in tree and palm biomass was calculated for each stratum of the Project Area and will remain the same for the entire baseline period. Above-ground non tree biomass is not significant, based on the results of the inventory made in the Native Community of Bélgica; therefore, it is conservatively omitted. The carbon stocks in post-deforestation biomass were taken from literature.
Belowground biomass (BGB)	Included	Included. Significant in tropical forests.
Dead-Wood	Excluded	Not a significant pool, based on the results of the Inventory ⁴⁶ made in the Native Community of Bélgica, close to the Project Area.
Harvested wood products	Excluded	The volume of harvested wood is similar in baseline and project case, as it has always been regulated.
Litter	Excluded	According to the Methodology Framework (REDD-MF) and the CP-AB module, this pool is not significant and can be conservatively omitted.
Soil organic carbon	Excluded	The REDD-MF module mentions that the exclusion of this pool is always conservative.

Source: updated from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios.

The carbon stocks for the AGB of arboreal vegetation were developed through a carbon inventory in the Project Area:

- A stratified sampling of 58 fix area temporal plots
- The individuals included in the inventory were Trees, Palms and Bamboos.
- The parameters measured were DBH, total and commercial height and tree health.
- The conversion from field parameters (DBH for trees and total height for palms) to biomass was done by using allometric equations from recognized researchers. In case of bamboos, a fixed biomass per individual was used from from studies of bamboos forest in Colombia.

⁴⁶ Internal use inventory made by FONDAM in 2010.

- The subsequent conversion from biomass to carbon stock was done by multiplying standardized factors as: Carbon Fraction, Ratio of Molecular Weight of CO₂ to carbon for AGB carbon stocks, and Root-to-shoot Ratio for BGB carbon stocks.

The carbon stocks per strata are presented in following table:

Table 3.2. Carbon Stocks per forest strata

ID	Name	AGB	BGB	C _{BSL,i}
		t CO ₂ e/ha	t CO ₂ e/ha	t CO ₂ e/ha
BTI	Flooded terraces forest	314.39	75.45	389.84
PA	Swamp trees	749.38	179.85	929.23
BPT	High and mid terrace with bamboo (paca) forest	402.93	96.70	499.63
BT	Terraces forest	761.48	182.76	944.24
P	Bamboos (Pacal)	608.06	145.93	753.99
BCB	Low hills forest	822.93	197.50	1,020.43
BPCB	Low hills with bamboo (paca) forest	365.85	87.80	453.65

Source: VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios.

The carbon stocks for post-deforestation land uses were established by identifying: the post-deforestation classes present in the region (UNALM – Frankfurt Zoological Society – INRENA; 2007), the main regional crops (National Census of 2007), and the carbon information (Alegre, J. et al., 2001). Corn was selected for the Agriculture class, because it has a higher carbon content than the alternative main crop (rice), whereas *Brachiaria decumbes* was selected for the Pastures class as it is the most cultivated grass species in the region.

Table 3.3. Carbon stocks per post-deforestation strata

ID	Name	C _{post,i}
		t CO ₂ e/ha
DP	Deforestation for Pastures	18.63
DF	Deforestation for Farming*	31.75
DI	Deforestation by Infrastructure	0.0
DA	Deforestation by Agriculture (Corn)	31.75
DM	Deforestation by Illegal Mining	0.0

Source: VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios.

* The farming class refers to a mixture of agriculture and grasslands. The Agriculture carbon stock (corn) was assigned as it is higher than Pastures or the weighted average of both classes.

The forest strata and post-deforestation land use classes, and their respective carbon stocks, are fixed over the accreditation period. Also, they are used in the baseline and project scenarios.

Regarding the GHG emission sources, only non-CO₂ emissions from biomass burning were included, as it is a practice joining the process of deforestation in the region. The following table shows the sources included/excluded from the project boundaries.

Table 3.4. Carbon stocks per post-deforestation strata

Sources	Gas	Included / Excluded	Justification
Burning of biomass	CO ₂	Excluded	Considered in the decrease due to the change in carbon stock.
	CH ₄	Included	Burning of biomass in deforested areas (55% is burnt in the field ⁴⁷) and burning of biomass in agricultural areas (waste) in Baseline.
	N ₂ O	Included	There would be no burning in the with – project scenario, as none of the activities would involve such practices.
Fossil fuels	CO ₂	Excluded	Not included in baseline accounts. Included in ex-ante estimations in the with-project case.
Use of fertilizers	N ₂ O	Excluded	Excluded because there will be no leakage prevention activities that include the use of fertilizers.

Source: VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios.

3.1 Without-Project Climate Scenario

3.1.1 Without-Project Estimated Greenhouse Gas Emissions (CL1.1)

Module BL-UP was used to develop the GHG emissions estimates of the baseline scenario. Provisions in this module include several steps, of which the main ones are:

- Establishment of the reference regions, RRD for estimating deforestation rates and RRL for locating future deforestation.
- Estimation of deforestation rate, which was made for 3 different strata: Negative Opportunity stratum, Positive Opportunity Cost stratum and Mining Zone stratum.
- Development of a model for spatializing future deforestation, that was made with the software Dinamica Ego. This process involves the identification of spatial variables that explain future deforestation, the test of different models through the comparison of Risks Maps, and selection of the most appropriate one.
- Location of future deforestation in the Project Area and Leakage Belt.

More details can be found the VCS Project Description and the developed BL-UP module (available at VVB's request).

The resulting projected areas of deforestation within the Project Area, for the first crediting period are 37,220.22 ha, with an annual average of 3,383.66 ha/year. The breakdown across forest strata and years is presented next.

Table 3.5. Projected areas of deforestation in Project Area

Annual areas of deforestation per forest strata - Project Area (ha)									
Strata/ Year		BTI	PA	BPT	BT	P	BCB	BPCB	Total
1	2010	56.50	53.90	40.30	2,982.80	18.10	19.70	260.60	3,431.90
2	2011	43.80	30.80	140.20	2,941.90	34.30	22.10	254.10	3,467.20
3	2012	25.70	31.70	133.10	2,883.40	25.70	43.40	259.10	3,402.10

⁴⁷Ministerio del Ambiente, 2000. Mapa de la Deforestación de la Amazonía Peruana, Capítulo 4.

Annual areas of deforestation per forest strata - Project Area (ha)									
Year	Strata	BTI	PA	BPT	BT	P	BCB	BPCB	Total
4	2013	40.90	42.90	154.70	3,044.80	30.80	52.90	309.00	3,676.00
5	2014	23.60	28.20	97.80	3,002.40	24.20	69.60	222.30	3,468.10
6	2015	56.00	41.40	108.90	2,947.50	42.80	99.30	312.10	3,608.00
7	2016	29.20	25.70	107.40	2,775.10	67.60	86.70	330.10	3,421.80
8	2017	27.30	60.50	112.90	2,645.00	78.60	57.00	294.40	3,275.70
9	2018	41.30	52.40	57.40	2,802.80	109.40	49.90	244.00	3,357.20
10	2019	37.80	67.00	82.20	2,552.20	79.70	46.90	225.90	3,091.70
11*	2020	32.77	45.40	80.67	2,553.80	62.47	37.76	207.64	3,020.52

Source: Modified from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios.

* Originally, the baseline was validated for the first 10 years but in 2019 the project was allowed by MINAM and VERRA to extend it until 2020, so an additional year is featured in all tables. The values for year 11 come from the validated deforestation model (see: *Castaños REDD Project Calculations v5.xlsx*).

The total GHG emissions in baseline were estimated based on the projected areas of deforestation, the difference in carbon stocks between forest strata (initial use) and post-deforestation land-use classes, and the GHG emission by biomass burning. The average for the first crediting period is 18,307,046.73 tCO₂e and the accumulated emissions are 32,889,650.13 tCO₂e.

Table 3.6. Total GHG emissions in Project Area in the baseline scenario

T	Year	Total sum of carbon stock change in baseline (t CO ₂) $\Delta C_{BSL,PA,unplanned}$	Greenhouse Gas emissions in baseline (t CO ₂ e) $GHG_{BSL,E}$	Net cumulative GHG emissions in the Baseline from Unplanned Deforestation (t CO ₂ e) $\Delta C_{BSL,unplanned}$
1	2010	2,981,526.18	77,490.46	3,059,016.64
2	2011	5,958,853.97	154,896.57	6,113,750.53
3	2012	8,890,233.13	231,100.96	9,121,334.10
4	2013	12,030,860.90	312,764.06	12,343,624.96
5	2014	15,060,269.10	391,487.37	15,451,756.47
6	2015	18,149,990.35	471,821.56	18,621,811.91
7	2016	21,069,518.49	547,738.50	21,617,256.99
8	2017	23,865,694.69	620,446.91	24,486,141.60
9	2018	26,772,389.54	695,999.60	27,468,389.14
10	2019	29,439,451.10	765,330.46	30,204,781.55
11	2020	32,056,302.00	833,348.13	32,889,650.13

Source: Modified from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios. (See: *Castaños REDD Project Calculations v5.xlsx*).

3.2 Net Positive Climate Impacts

3.2.1 With-Project Estimated Greenhouse Gas Emissions (CL2.1)

The ex-ante estimations of total emissions due to project activities were developed according to M-MON module provisions. Two sources were included: the CH₄ and N₂O emissions from energy consumption (electricity and fossil fuels) for project activity implementation, and the CH₄ and N₂O emissions from biomass burning as part of the deforestation process in the Leakage Belt. Emissions from carbon stocks changes were not included as it was assumed that no deforestation would take place in the Project Area.

Table 3.7. Cumulative ex-ante GHG emissions in the Project Area under the Project Scenario

<i>T</i>	Year	GHG emissions from biomass burning in the Leakage Belt in the with-project case (t CO ₂ e)	GHG emissions from energy consumption in project activities (t CO ₂ e)	Total GHG emissions in the project scenario (t CO ₂ e)
1	2010	88,222.0	983.5	89,205.49
2	2011	171,811.4	1,967.1	173,778.42
3	2012	259,109.9	2,950.6	262,060.53
4	2013	347,439.1	3,934.1	351,373.21
5	2014	432,637.6	4,917.7	437,555.23
6	2015	521,344.5	5,901.2	527,245.65
7	2016	614,880.9	6,884.7	621,765.65
8	2017	707,796.2	7,868.2	715,664.42
9	2018	797,642.6	8,851.8	806,494.35
10	2019	890,483.6	9,835.3	900,318.89
11	2020	983,964.4	10,818.8	994,783.21

Source: Modified from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios. (See: *Ex-ante GHG Emissions in the with-project case.xlsx*).

Ultimately, these emissions were excluded from the net emission reductions calculation because they were found to be insignificant (see: *Ex-ante GHG Emissions in the with-project case.xlsx*).

3.2.2 Net Impact (CL2.2)

To calculate the total GHG emission reductions attributable to the Project, the results of emissions in baseline (Section 3.3.1), project-case (Section 3.2.1), and leakage (Section 3.3.2) were combined. The cumulative mitigation impacts expected from the implementation of the Project in the first crediting period are 30,440,399.29 tCO₂e, with an average of 2,767,309.03 tCO₂e/year.

Table 3.8. Total net annual emissions reduction

T	Year	$\Delta C_{BSL,unplanned}$	ΔC_P	$\Delta C_{LK-AS,unplanned}$	$C_{REDD,t}$
1	2010	3,059,017	-	225,165	2,833,852
2	2011	3,054,734	-	221,117	2,833,617
3	2012	3,007,584	-	221,789	2,785,794
4	2013	3,222,291	-	233,362	2,988,929
5	2014	3,108,132	-	225,100	2,883,031
6	2015	3,170,055	-	231,040	2,939,015
7	2016	2,995,445	-	226,267	2,769,178
8	2017	2,868,885	-	219,414	2,649,471
9	2018	2,982,248	-	222,566	2,759,682
10	2019	2,736,392	-	212,739	2,523,653
11	2020	2,684,869	-	210,692	2,474,177

Source: Modified from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios. (See: *Castaños REDD Project Calculations v5.xlsx*).

As mentioned before, net emissions in the project-case scenario are null as there will be no variation in carbon stocks because the Project will carry out activities to avoid 100% the projected deforestation, and the GHG emissions have been dismissed as non-significant.

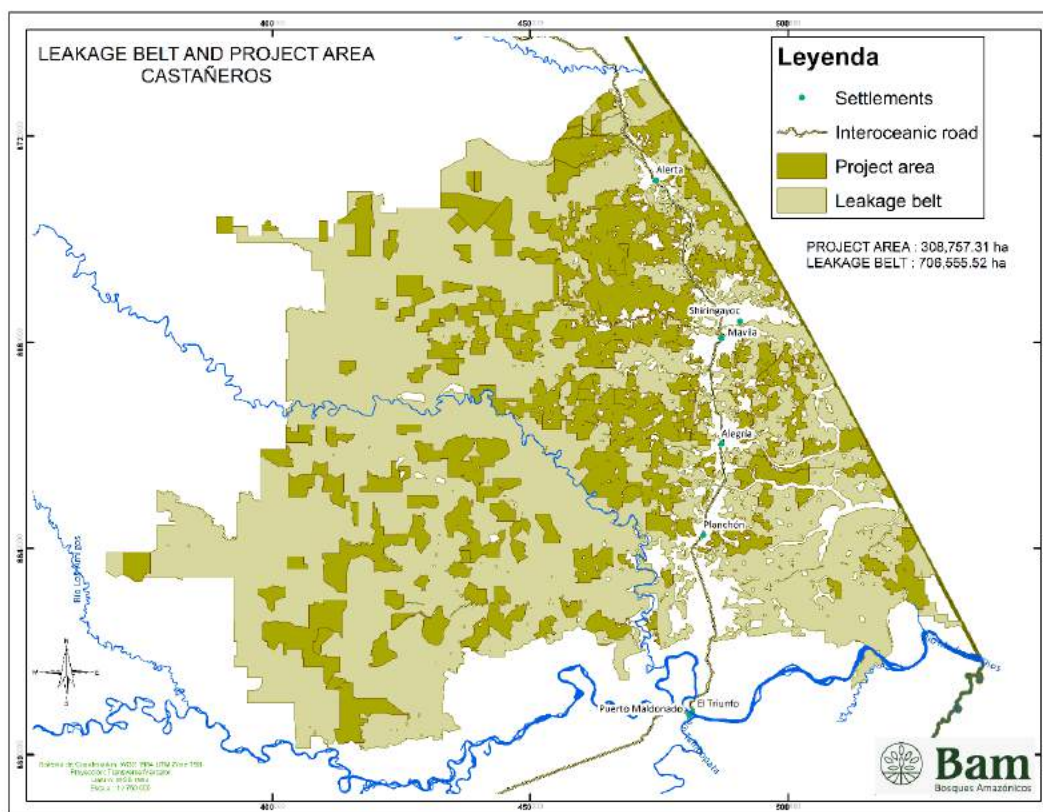
The value of CREDD represents the total greenhouse gases that will not be emitted to the atmosphere because of the implementation of the project activity inside the Brazil nut concessions. Hence, it is evident that the climate impact is positive. It should be stressed that there will be constant monitoring, to verify real emissions.

3.3 Offsite Climate Impacts (Leakage)

3.3.1 Types of Expected Leakage (CL3.1)

The Leakage Belt (LB), according to the Modular Methodology, is the area where the deforestation agents are expected to enter in presence of the project activity. This concept is used to account for the expected leakage in the surroundings of the Project Area and in areas that are more distant.

Map 3.1. Leakage belt and Project area



In-house elaboration.

The LB of the Project has been determined by the remaining BN region surrounding the Project Area. Because of the similarity of conditions between them, it is assumed that the deforestation agents will displace their traditional activities from the Project Area to the Leakage Belt, starting by closest areas to roads.

As analyzed by independent studies, the main drivers of deforestation in the Project Area and Leakage Belt are the rural families, local and migrants, who expand the agrarian frontier mainly for installing subsistence crops and cattle ranching as near as possible to local markets.

For them, the Brazil nut concessions are very attractive areas as they are unoccupied most part of the year because of the Brazil Nut seasonality. Enforcement is still weak as it is very difficult for concessionaries to legally expulse invaders if they can stay at least for 48 hours.

With the recent paving of IOS, the accessibility to enter forest areas has increased and so has the profitability of agricultural and grazing activities and the migration rate. It must be remarked that Madre de Dios has the largest internal migration rate from the country, so the problem has deepened.

The project plans to increase the (economic) incentives and improve the conditions of Brazil nut concessionaries to protect their areas while giving options and training improved/alternative activities; which will generate employment and incomes for the population. In addition, the surveillance system (that includes legal advisory) should inhibit migrants to come to these areas.

Nevertheless, leakage due to the avoided unplanned deforestation project is expected and was calculated and subtracted from the net impact estimation (Section 3.2.2).

3.3.2 Quantity of Expected Leakage (CL3.1, 3.3)

In order to estimate the leakage due to project activities, the methodology requires the prior estimation of baseline deforestation inside the Leakage Belt area. Therefore, it was constructed according to the BL-UP module. The same criteria to estimate the carbon stock change and GHG emissions in the Project Area were used in this step. Some of them are:

- The Forest Stratification is based on the Forest Map of the Madre de Dios ZEE, developed by the Peruvian Amazon Research Institute (IIAP) and the Regional Government of Madre de Dios (GOREMAD) in 2009. This stratification will remain the same for the entire baseline period.
- The post-deforestation land-uses were defined based on the analysis made of the study of land use monitoring, in 3 points in time of the Inter-oceanic Highway, stretch 3 (CDC-UNALM/SZF/INRENA, 2007). These land-use-post-deforestation classes will also remain the same for the entire baseline period.
- The carbon stocks in pre- and post-deforestation classes are fixed for the entire baseline period.

The whole procedure can be seen in detail in the excel document: *Castañeros REDD Project Calculations CCB.xlsx*. The cumulative deforestation during the first crediting period is 68,966.93 ha.

Table 3.9. Projected areas of deforestation in Leakage Belt

Annual areas of deforestation in each forest classes - Leakage Belt									
Year	Strata	BTI	PA	BPT	BT	P	BCB	BPCB	Total
1	2010	117.46	496.03	159.8	4,995.13	22.68	43.86	161.82	5,996.78
2	2011	154.25	417.9	169.38	4,616.04	40.84	73.09	343.29	5,814.79
3	2012	129.05	619.04	224.83	4,595.38	89.73	74.1	355.39	6,087.52
4	2013	118.46	576.69	228.86	4,662.42	105.35	81.67	404.29	6,177.74
5	2014	128.55	471.84	194.08	4,603.94	97.29	81.66	358.41	5,935.77
6	2015	170.89	546.44	144.67	4,644.78	164.85	75.62	516.70	6,263.95
7	2016	204.16	594.33	127.54	4,867.59	137.11	135.1	513.68	6,579.51
8	2017	252.05	475.87	117.46	4,925.56	118.97	124.51	575.18	6,589.60
9	2018	258.60	600.39	137.11	4,608.99	111.4	119.97	557.54	6,394.00
10	2019	200.63	531.82	71.58	4,863.05	93.77	166.36	623.06	6,550.27
11	2020	226.34	678.52	90.24	4,768.28	58.47	193.57	561.57	6,576.99

Source: Modified from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios. (See: *Castañeros REDD Project Calculations v5.xlsx*).

Then, the LK-ASU module was followed to estimate:

- The emissions of deforestation displaced from the Project Area to the Leakage Belt, which depends on the proportion of inhabitants carrying economic activities related to deforestation practices that could not be dissuaded by the project.

- The emissions of deforestation displaced from the Project Area to outside the Leakage Belt, which depends on the forest availability at a larger scale and the proportion of residents/migrants in the surrounding areas.
- The emissions from the implementation of leakage prevention activities, that were deemed inexistent because there are not specific activities for leakage reduction as all project activities contribute to this effect.

The LK-ASU module developed for the Project could be reviewed for details on the calculations. The resulting GHG emissions for the first crediting period amount to 2,449,250.84 tCO₂e, with an average of 222,659.17 tCO₂e/year.

Table 3.10. Cumulative ex-ante GHG emissions due to leakage

<i>T</i>	Year	Net CO ₂ emissions due to displaced unplanned deforestation from PA to LB $\Delta C_{LK-ASU-LB}$	Net CO ₂ emissions due to displaced unplanned deforestation outside LB $\Delta C_{LK-ASU,OLB}$	Emissions from leakage prevention activities $GHG_{LK,E}$	Total Leakage due to displacement of unplanned deforestation (t CO ₂ e) $\Delta C_{LK-AS,unplanned}$
1	2010	152,950.83	72,213.96	-	225,164.80
2	2011	305,687.53	140,594.20	-	446,281.72
3	2012	456,066.70	212,004.11	-	668,070.82
4	2013	617,181.25	284,251.25	-	901,432.50
5	2014	772,587.82	353,944.96	-	1,126,532.78
6	2015	931,090.60	426,482.29	-	1,357,572.89
7	2016	1,080,862.85	502,976.87	-	1,583,839.72
8	2017	1,224,307.08	578,946.51	-	1,803,253.59
9	2018	1,373,419.46	652,400.06	-	2,025,819.52
10	2019	1,510,239.08	728,319.72	-	2,238,558.80
11	2020	1,644,482.51	804,768.33	-	2,449,250.84

Source: Modified from VCS Project Description - REDD Project in Brazil Nuts Concessions in Madre de Dios. (See: *Castañeros REDD Project Calculations v5.xlsx*).

3.3.3 Leakage Mitigation (CL3.2)

As mentioned before, many of the proposed activities have been designed so that, in addition to preventing deforestation in the Project Area, they also face up leakage. This will be done by including the different stakeholders from the Project Zone into the project activities. Thus, there are no activities meant for leakage management per se.

Below is a summary of the activities, whose effectiveness will be evaluated constantly throughout the project's life. If necessary, new activities could be implemented during the project life span.

- Implementation of the Forest Monitoring and Surveillance System (MCS). This is not just limited to the Project Area, but also includes the Leakage Belt.
- Continuous training to project stakeholders in sustainable forest management (concession management; concession monitoring and control; sustainable productive activities), and

other related topics of interest focused on the adequate development of the community and maintenance of the forest.

- Development communication campaigns on forest conservation and the sustainable use of its resources, to promote sustainable development in harmony with the environment among project stakeholders.
- Creation of alliances with local NGOs or Technical Institutes to develop pilot projects for alternative activities.
- Promotion of biodiversity conservation and the prevention of crimes against wildlife through communication campaigns and training events for project stakeholders.

Since the deforestation agents are migrants and residents doing farming and mining activities, it is to be supposed that migrants and miners in general are the actors who are most difficult to include— and convince of participating— in the project activities. Nonetheless, from the proportion of migrants undertaking deforestation activities very few are involved in mining (7%), hence we expect to reach everybody but miners.

3.4 Climate Impact Monitoring

3.4.1 Climate Monitoring Plan (CL4.1)

The Monitoring Plan has been developed following the guidelines of M-MON module. Its aim is to establish the parameters to be monitored and to guide the collection of all necessary information for assessing the development of the project activities and especially, for estimating the real (*ex-post*) net GHG reductions attributable to the project activity.

The monitoring for verification will be conducted maximum every 5 years, and the baseline revisiting will happen every 10 years (or any updated frequency as required by the methodology). During this time, some parameters will be recorded according to their occurrence (i.e., PRA, training courses), and others by the end of each monitoring event (i.e., deforested area through satellite images).

In the same way, the project will monitor some parameters directly in field and others by gathering indirect information, like national information as well as representative studies of the area and official information, if necessary.

Each monitoring event will produce the following pre-results:

Table 3.11. Pre-results

Parameter	SI Unit	Description
$\Delta C_{p,defPA,i,t}$	tCO ₂ e	Net carbon stock change due to deforestation in the Project Area in the project case.
$\Delta C_{p,Deg,i,t}$	tCO ₂ e	Net carbon stock change due to degradation in the Project Area in the project case.
$\Delta C_{p,DistPA,i,t}$	tCO ₂ e	Net carbon stock change due to natural disturbance in the Project Area in the project case.
$GHG_{p-E,i,t}$	tCO ₂ e	Greenhouse gas emissions due to deforestation and degradation within the Project Area in the project case.

$\Delta C_{P,DefLB,i,t}$	tCO ₂ e	Net carbon stock change due to deforestation in Leakage Belt in the project case.
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The last parameter from the table, referred to emissions in LB, is used to estimate the leakage emissions caused by the project activities; while the first four parameters are combined (using Equation N°1 M-MON module) to finally obtain:

Table 3.12. Overall parameter for reporting project results

Parameter	SI Unit	Description
ΔC_P	tCO ₂ e	Net greenhouse gas emissions within the project area under the project scenario

As can be inferred, the previous parameters are each one the result of several calculations framed in the Modular Methodology. Therefore, in order to get any of them, the parameters under monitoring (according to the objective) are:

Data and Parameters Monitored for Baseline Renewal

Parameter:	Regional Forest Cover/ Non-Forest Cover Benchmark Map
Data unit:	n/a
Description:	Map showing the location of forest areas in the Reference Region (RRD) at the beginning of the crediting period
Source of data:	National official Forest/Non-Forest and Forest Loss Maps
Justification of choice or description of measurement methods/procedures applied:	MINAM has produced official data of forest, non-forest, and forest loss for the entire Peruvian Amazon biome. These maps are produced every year and are used to prepare the national reports on GHG emissions, REDD, and NDC.
Any comment:	As part of the ongoing national process to implement REDD+, two official sources exist to date: GEOBOSQUES and Ukukuy Platforms, both from MINAM. It is yet to be defined which of them will be the official tool for REDD in the country.

Parameter:	A_i
Data unit:	Ha
Description:	Area of stratum i
Source of data:	Forest class maps from the Regional ZEE
Justification of choice or description of measurement methods/procedures applied:	At a minimum every 10 years prior to baseline renewal.
Any comment:	The forest strata used in the first crediting period is from the Madre de Dios Economic Ecological Zoning (ZEE) and shall remain fixed during this period. For the second crediting period, an assessment of new data sources (i.e., Ecozones from the National Forestry and Wildlife Inventory) will be done to define if the original strata are kept or updated.

Parameter:	$A_{RRD,unplanned,hrp}$
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Data unit:	Ha
Description:	Total deforested area during the Historical Reference Period in the RRD.
Source of data:	National official Forest/Non-Forest and Forest Loss Maps
Justification of choice or description of measurement methods/procedures applied:	Alignment with the REDD national process.
Any comment:	Monitored for baseline revisions.

Parameter:	CF
Data unit:	$t\ C\ t^{-1}\ d.m$
Description:	Carbon fraction of dry matter
Source of data:	Value taken from IPCC 2006 INV GLs AFOLU Chapter 4 Table 4.3
Justification of choice or description of measurement methods/procedures applied:	Equal to $0.47\ t\ C\ t^{-1}\ d.m.$ for non-trees species
Any comment:	Default value used for all species.

Parameter:	D_j
Data unit:	$t\ d.m.\ m^{-3}$
Description:	Basic wood density for species j
Source of data:	National studies (CITE Madera, Thesis, etc.). For species with no DB information, the regional average wood density value of $0.60\ t\ d\ m\ m^{-3}$ is used (for tropical America) from Reyes 1992 and Brown, S. 1997.
Justification of choice or description of measurement methods/procedures applied:	National values from studies and thesis are preferred but only available for a limited group of species. For those that could be identified at species level that do not have national data, regional/international databases are used. For all other species, the regional average is used.
Any comment:	n/a

Parameter:	$f_j(X, Y)$
Data unit:	$t\ d.m.\ tree^{-1}$
Description:	Allometric equation for species j linking measured tree variable (s) to aboveground biomass of living trees
Source of data:	The Chavé equation for trees and Winrock equation for palm trees
Justification of choice or description of measurement methods/procedures applied:	Both formulas have been taken from: Pearson, T., Walker, S. and Brown, S. 2005. Sourcebook for Land Use, Land-Use Change and Forestry Projects. Winrock International and the World Bank Biocarbon Fund. 57pp Chave, J, et. Al. 2005. Tree allometry and improved estimation of carbon stocks and balance in tropical forests. Oecologia 145: 87-99

Any comment:	
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Data and Parameters Monitored for Verification

Parameter:	Project Forest Cover Monitoring Map
Data unit:	n/a
Description:	Map evidencing location of forestland in the Project Area at the beginning of each verification period.
Source of data:	National official Forest/Non-Forest and Forest Loss Maps
Justification of choice or description of measurement methods / procedures applied:	Alignment with national REDD process and carbon accounting system.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years)
Value applied:	n/a
Monitoring equipment:	GIS Software
QA/QC procedures to be applied:	Accuracy assessment through high-resolution satellite images for the Project Zone area.
Any Comment:	This map will be updated after each monitoring event. The base forest area for the first monitoring period will be equal to the Project boundary. It is also called Project Forest Cover Benchmark Map when is used for Baseline renewal.

Parameter:	Leakage Belt Forest Cover Monitoring Map
Data unit:	n/a
Description:	Map evidencing location of forestland in the Leakage Belt at the beginning of each verification period.
Source of data:	National official Forest/Non-Forest and Forest Loss Maps
Justification of choice or description of measurement methods / procedures applied:	Alignment with national REDD process and carbon accounting system.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years)
Value applied:	n/a
Monitoring equipment:	GIS Software
QA/QC procedures to be applied:	Accuracy assessment through high-resolution satellite images for the Project Zone area (that covers PA and LB).
Any comment:	This map will be updated after each monitoring event. The base forest area for the first monitoring period will be equal to the Leakage Belt boundary. It is also called Leakage Belt Forest Cover Benchmark Map when is used for Baseline renewal

Parameter:	Degradation PRA Results
Data unit:	n/a
Description:	Potential pressure of illegal extraction of trees inside PA.
Source of data:	PRA

Justification of choice or description of measurement methods / procedures applied:	Interviews and/or surveys to local actors to identify potential existence of illegal extraction inside PA due to: ·Extraction of firewood ·Illegal logging If the $\geq 10\%$ of the surveys show possible degradation, then on-the-ground surveys will be executed. Additionally, a penetration distance should be obtained.
Frequency of monitoring/recording:	Every 2 years
Value applied:	n/a
Monitoring equipment:	n/a
QA/QC procedures to be applied:	Templates for surveys and/or interviews.
Any comment:	Degradation is considered 0 at the beginning of the project.

Parameter:	Results of Limited Degradation Survey
Data unit:	n/a
Description:	Verification of degradation processes in the project area.
Source of data:	Field measurements
Justification of choice or description of measurement methods/procedures applied:	Sampling transects with known length and width, distributed across a buffer made to access points/roads, to identify existence of new tree-stumps. Transects should cover $\geq 1\%$ of the buffer area.
Frequency of monitoring/recording:	Each time the PRA indicates potential degradation in PA.
Value applied:	n/a
Monitoring equipment:	GPS, field notebooks
QA/QC procedures to be applied:	Trained staff for field measurement
Any comment:	n/a

Parameter:	$A_{DefPA,iu,t}$
Data unit:	Ha
Description:	Area of recorded deforestation in the Project Area in stratum i converted to land use u at time t .
Source of data:	National official Forest/Non-Forest and Forest Loss Maps
Justification of choice or description of measurement methods/procedures applied:	Alignment with national REDD process and carbon accounting system.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years)
Value applied:	n/a
Monitoring equipment:	GIS Software
QA/QC procedures to be applied:	Accuracy assessment through high-resolution satellite images for the Project Zone area.
Any comment:	Ex-ante estimation equal to zero in the with-project case.

Parameter:	$A_{DefLB,iu,t}$
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Data unit:	Ha
Description:	Area of recorded deforestation in the Leakage Belt in stratum i converted to land use u at time t .
Source of data:	National official Forest/Non-Forest and Forest Loss Maps
Justification of choice or description of measurement methods/procedures applied:	Alignment with national REDD process and carbon accounting system.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years)
Value applied:	n/a
Monitoring equipment:	Software GIS
QA/QC procedures to be applied:	Accuracy assessment through high-resolution satellite images for the Project Zone area.
Any comment:	Ex-ante values calculated according to M-MON module

Parameter:	$A_{DegW,i}$
Data unit:	Ha
Description:	Area potentially impacted by degradation process.
Source of data:	GIS delineation and ground truth.
Justification of choice or description of measurement methods/procedures applied:	The length is obtained from the PRA results, and the width shall be equal to the length
Frequency of monitoring/recording:	Must be repeated each time the PRA indicates a potential for degradation
Value applied:	n/a
Monitoring equipment:	GIS software
QA/QC procedures to be applied:	n/a
Any comment:	n/a

Parameter:	$A_{DECKS,i,t}$
Data unit:	Ha
Description:	Area of logging decks in stratum i at time t .
Source of data:	Field measurements or post-harvest reports.
Justification of choice or description of measurement methods/procedures applied:	Sampling of areas where legal wood extraction occurred (in the monitored period). The logging decks found are measured (width and length) for calculating the area which is then extrapolated to the total logged area.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	GPS MAP 60 CSX, Arc GIS Software
QA/QC procedures to be applied:	Randomly verification of 10% field data.
Any comment:	Only when project areas where logging occurred are not temporarily excluded from the monitoring.

Parameter:	$A_{DistPA,q,i,t}$
Data unit:	Ha
Description:	Area impacted by natural disturbance in the project stratum i converted to natural disturbance stratum q at time t .
Source of data:	Reported events and ground verification.
Justification of choice or description of measurement methods / procedures applied:	Reports from concessionaires and field measurement.
Frequency of monitoring/recording:	Every time an event occurs.
Value applied:	n/a
Monitoring equipment:	GPS, GIS Software.
QA/QC procedures to be applied:	Contrast the information from the Remote sensing with field verification
Any comment:	There are not significant events in the region. If they occur, the best way to acknowledge them is through the landowner.

Parameter:	$A_{ROAD,i,t}$
Data unit:	Ha
Description:	Area of roads in stratum i at time t .
Source of data:	Post-harvest assessment reports and maps or field measurements.
Justification of choice or description of measurement methods / procedures applied:	The area of roads is based on the length of roads times the average width of roads. Systematic samplings may be used to estimate the width of roads, achieving a precision equal or less than 15% of the mean at 95% confidence interval.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	GPS MAP 60 CSX, Arc GIS Software.
QA/QC procedures to be applied:	Randomly verification of 10% field data.
Any comment:	Only when project areas were logging occurred are not temporarily excluded from the monitoring.

Parameter:	$A_{RRL,forest,t}$
Data unit:	Ha
Description:	Remaining area of forest in RRL.
Source of data:	National official Forest/Non-Forest and Forest Loss Maps.
Justification of choice or description of measurement methods/procedures applied:	Alignment with national REDD process.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	GIS Software

QA/QC procedures to be applied:	Accuracy assessment with high-resolution images in the Project Zone.
Any comment:	n/a

Parameter:	AP_i
Data unit:	Ha
Description:	Total area of degradation sample plots in stratum i .
Source of data:	Ground measurement.
Justification of choice or description of measurement methods/procedures applied:	Systematically placed plots, covering at least 3% of the buffer zone.
Frequency of monitoring/recording:	Every time the Limited Degradation Survey indicates degradation (existence of stumps), or at least every 5 years.
Value applied:	n/a
Monitoring equipment:	GPS, field equipment: tape line, compass, and field staff.
QA/QC procedures to be applied:	Trained staff for field measurement.
Any comment:	Ex-ante, there is no evidence of degradation within PA.

Parameter:	$C_{DegW,i,t}$
Data unit:	t CO ₂ e
Description:	Biomass carbon of trees cut and removed through illegal logging and charcoal extraction degradation process from plots measured in stratum i at time t
Source of data:	Field measurements.
Justification of choice or description of measurement methods/procedures applied:	The results from the sampling plots will be processed and then the emissions from biomass lost will be calculated by using the basic wood density, allometric equations, and other parameters.
Frequency of monitoring/recording:	Every time a degradation event is identified and measured.
Value applied:	n/a
Monitoring equipment:	GPS, field equipment: tapeline, compass, and field staff
QA/QC procedures to be applied:	n/a
Any comment:	Ex-ante estimated as zero.

Parameter:	$C_{AB_tree_dest,i}$
Data unit:	t CO ₂ e ha ⁻¹
Description:	Carbon stock in aboveground tree biomass assumed to be killed per unit area resulting from the creation of the skid trail in stratum i .
Source of data:	Forest carbon inventory
Justification of choice or description of measurement methods/procedures applied:	n/a
Frequency of monitoring/recording:	Carbon stocks will be re-assessed for baseline renewal

Value applied:	$C_{AB_tree_dest,i} = C_{AB_tree,i}$
Monitoring equipment:	n/a
QA/QC procedures to be applied:	n/a
Any comment:	n/a

Parameter:	$C_{BB_tree_dest,i}$
Data unit:	t CO ₂ -e ha ⁻¹
Description:	Carbon stock in belowground tree biomass assumed to be killed per unit area resulting from the creation of the d trail in stratum <i>i</i>
Source of data:	$C_{AB_tree_dest,i}$
Justification of choice or description of measurement methods / procedures applied:	Root-to-shoot used in baseline (0.24)
Frequency of monitoring/recording:	Carbon stocks will be re-assessed for baseline renewal
Value applied:	$C_{BB_tree_dest,i} = C_{AB_tree_dest,i} * 0.24$
Monitoring equipment:	n/a
QA/QC procedures to be applied:	n/a
Any comment:	n/a

Parameter:	L_{sk}
Data unit:	m
Description:	Length of skid trail.
Source of data:	Post-harvest assessment reports and maps or field measurements.
Justification of choice or description of measurement methods/procedures applied:	A systematic sampling may also be used if reports are insufficient.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	GPS MAP 60 CSX
QA/QC procedures to be applied:	Randomly verification of 10% field data.
Any comment:	Only when project areas were logging occurred are not temporarily excluded from the monitoring.

Parameter:	$V_{EXT,z,i,t}$
Data unit:	m ³
Description:	Extracted volume from logging stratum <i>z</i> in stratum <i>i</i> at time <i>t</i> .
Source of data:	Records and post-harvest reports.

Justification of choice or description of measurement methods / procedures applied:	The provincial forestry authorities keep records of the allowed extracting volumes and mobilized volumes.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	n/a
QA/QC procedures to be applied:	Comparison between allowed and mobilized volumes from the same period.
Any comment:	Only when project areas were logging occurred are not temporarily excluded from the monitoring.

Parameter:	$V_{EXT,j,z,i,t}$
Data unit:	m^3
Description:	Volume of timber extracted of species j for logging stratum z in stratum i at time t
Source of data:	Records and post-harvest reports.
Justification of choice or description of measurement methods / procedures applied:	Same procedures applied in the estimation of $V_{EXT,z,i,t}$
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	n/a
QA/QC procedures to be applied:	Comparison between allowed and mobilized volumes from the same period.
Any comment:	Only when project areas were logging occurred are not temporarily excluded from the monitoring.

Parameter:	W_{SKID}
Data unit:	m
Description:	Mean width of skid trails
Source of data:	Post-harvest assessment reports and maps or field measurements.
Justification of choice or description of measurement methods/procedures applied:	A systematic sampling may also be used if reports are insufficient.
Frequency of monitoring/recording:	Every monitoring event (≤ 5 years).
Value applied:	n/a
Monitoring equipment:	GPS MAP 60 CSX
QA/QC procedures to be applied:	Randomly verification of 10% field data.
Any comment:	Only when project areas were logging occurred are not temporarily excluded from the monitoring.

The methods for monitoring the parameters related to deforestation and degradation are:

Monitoring Deforestation

The changes in forestland, detection, and mapping of deforestation inside the Reference Regions, and Project Area and Leakage belt (ergo Project Zone) will be periodically monitored through the use of national maps of forest/non-forest and forest loss. Before there was official information covering the Project Zone, it was necessary for the Project to develop its own maps. This was the case for the validation information and the first verification under VCS. Now, these maps are available on a yearly basis covering the entire Peruvian Amazon.

In the case of the GEOBOSQUES maps, these do not undergo a validation process, so the accuracy/error is not known. The Ukukuy maps are validated though it may be required a specific validation at the project scale. If required by the methodology, the Project will perform this by contrasting systematically located points to high-resolution images, to determine the accuracy and uncertainty of the latest map. The results will be analyzed by using a Confusion Matrix. A minimum of 90% is the targeted accuracy for both, forest, and non-forest land.

Table 3.13. Example of Confusion Matrix

Predicted Class	Actual Class		Σ	Commission Errors %
	A	B		
A	nAA	nAB	nA+	
B	nBA	nBB	nB+	
Σ	n+A	n+B	n	
Omission Errors %				

As BAM is the map's user, attention is focused on the commission errors and a user's accuracy shall be estimated. It can be done with the following formula⁴⁸ for every map class:

$$\text{User's Accuracy} = (n_{ii} / n_{i+}) * 100\%$$

Once the classification of images is completed, the BAM's GIS expert will estimate the following parameters for the monitored period:

- Area of change (deforestation) in the PA ($A_{DefPA,u,i,t}$) and LB ($A_{DefLB,u,i,t}$) per stratum.
- Update of Forest Cover Monitoring Maps for PA and LB.
- Update the remaining area of forest in RRL ($A_{RRL,forest,t}$).
- Total area deforested during the baseline in RRD ($A_{RRD,unplanned,hrp}$), only for baseline renewal.

The Area of Change data should specify to which post-deforestation land use (u) each forest strata (i) was converted, so by the end of baseline period the fixed proportions of u types used for ex-ante baseline estimations can be reassessed.

Monitoring Degradation

The project will account for any emissions due to degradation activities, which include illegal extraction of fuelwood and/or charcoal, and the legal extraction of wood.

⁴⁸ Strahler, A. *et al.* Global Land Cover Validation: Recommendations for Evaluation and Accuracy Assessment of Global Land Cover Maps. GOFC-GOLD. 2006.

- Degradation through extraction of trees for illegal timber or fuelwood and charcoal ($\Delta C_{P,DegW,i,t}$)

Tracking this type of degradation activity has many steps. First, a possible pressure on the PA from illegal extraction of trees shall be assessed. In this sense, a Participative Rural Assessment (PRA) will be developed with the concessionaries given that, for being users of the project areas, they can identify the occurrence of any disruption in their areas. The PRA will consist of interviews and/or surveys.

If the PRA results show there is no considerable pressure over PA ($\geq 90\%$ of surveys indicate no pressure), then degradation is assumed to be zero and no field survey is needed. On the contrary, if PRA suggests potential degradation, the project will carry out the following sub-steps:

- A Penetration Distance should be obtained (distance that degradation agents can entry from identified access points) from PRA.
- From each point, Buffer Areas will be established with wide and longitude equal to the penetration distance.
- A Limited sampling of transects will be carried to evaluate the buffer zone. The evaluated area should be no less than 1% of the buffer area.
- If tree-stumps are not found or barely found (exploited trees) then it is assumed no degradation happened. The limited sampling should be repeated every time a PRA indicates potential of degradation.
- If tree-stumps are found, then a Systematic Sampling should be made. To this purpose, an area $\geq 3\%$ of the buffer area will be assessed with plots systematically placed.
- The diameter of all tree-stumps will be measured and assumed to be equal to DBH. If they are too big, (i.e. due to buttress roots) the specie should be identified and other individuals of the same species standing next to it should be measured. Their DBH and tree-stumps diameter will be recorded, and a ratio DBH /tree-stump diameter will be calculated. With this data, DBH of cut trees should be estimated.
- Once DBHs are known, the carbon stock of cut individuals will be estimated with the allometric equation of *Chave et al. (2004)* for moist tropical forest (used in baseline carbon stocks estimations). It will be assumed that all carbon stock (in AGB and BGB biomass) is emitted and lost in the atmosphere.

Finally, the carbon stock changes due to degradation by illegal extraction of trees are calculated following M-MON provisions.

The project will conduct a PRA every two years even if there are longer gaps of time between verification events. Field technicians will record all information created during each PRA and samplings. Survey and sampling templates will be available for them to use, and all information will be saved in physical records and in the digital database.

- Degradation through extraction of trees for selective logging from forest management areas possessing FSC certificate ($\Delta C_{P,SelLog,i,t}$)

This source of degradation accounts for the loss of carbon stock due to removal of trees for timber purposes and the derived damage in non-commercial trees during harvest (logging gap), and due to the logging infrastructure created. These emissions, however,

will be discounted for any stock retained in wood products resulting from timber extraction. The calculation procedures are detailed in M-MON module.

It is worth noting that not all Brazil nut concessionaires harvest timber from their areas. Indeed, around 30% of concessionaires do selective logging as a complementary activity⁴⁹, for which they are compelled to sub-divide their concessions into several parcels – called Annual Cutting Plots (PCA) – and use only one of them each year. Thus, a much smaller area than PA is actually degraded by logging every year.

The monitoring of these areas will occur before every verification event or at least every 5 years.

- Emissions Arising in the Logging Gaps

These are the emissions occurring due to the death of the timber tree and the death of all trees incidentally killed during felling. For estimating the biomass of the total volume extracted, the concessionaires' field records will be collected when possible. Otherwise, the official information gathered yearly in the extraction balances of each Forestry Local Authority will be used. These balances contain the extracted volumes per tree species and concessionaire.

- Emissions by Logging Infrastructure

The logging infrastructure includes skid trails, logging roads and logging decks, needed for transporting the logs. To monitor the emissions due to their creation, field reports will be used when available; otherwise, field measurements will be carried to estimate accurately the cleared area. In this case, as no guidance is available for monitoring extraction of wood in BN concessions, the criteria from the methodology proposed by Sabogal et al. (2007) will serve as a basis.

Said methodology was developed to monitor the logging impacts in timber concessions whose working conditions differ from BN concessions in scale, used technology and management among other variables. Still, it is the only tool with defined procedures.

Transects of 10m x 500m (or a more convenient size) will be evaluated covering the between 0.5% and 1% of the affected area (sum of PCAs). The resulting monitoring area will be distributed in a number of no less than 5% of PCAs, which will be randomly selected. Inside them, assessment of the dimensions of roads, skid trails and decks will be made. The specific considerations and the equations for estimating emissions from the field measures are detailed in M-MON module.

Monitoring Areas Undergoing Natural Disturbance

The areas that suffered natural disturbance will be identified by the affected concessionaire through a registration form, when the area affected is small. For larger scale affectations, the forest loss maps could be used.

The disturbed areas will result from the overlap between the area disturbed and the summed area of unplanned deforestation in the PA (to the year where the disturbance occurred). If the natural

⁴⁹ Balance de Extracción 2011. Administración Técnica Forestal y de Fauna Silvestre (ATFFS) of Tambopata-Manu and Tahuamanu provinces.

disturbance is fire, then the area burned will be assumed to be equal to A_{DistPA} . In this case, emissions will be calculated using module E-BB.

It will be conservatively assumed that the post-natural disturbance pools are equal to zero. Carbon stock in wood products will not be considered as the disturbance most likely to happen is fire and no harvest will follow this natural disturbance.

In addition, the uncertainty will be included in the estimation of ex-post with-project scenario uncertainties calculations, by using X-UNC module.

Monitoring of Project Emissions

The emissions of non-CO₂ gases from fuel use and biomass burning will be analyzed with E-BB module. After their estimation, each parameter will be addressed using T-SIG module to determine whether the emission sources are significant or can be dismissed from the overall estimations.

- N₂O and CH₄ Emissions from Agriculture and Forest Biomass Burning

It is performed on areas that suffer a change in land use. To estimate ex-ante biomass burnt in forests, it was calculated (according to MINAM, 2009) that 55% of the deforested forest is burnt. This index will be the same for the entire baseline period. Nevertheless, it should be corroborated (based on measures made of the own experience or a new bibliographic search) for baseline renewal.

For the case of agriculture biomass burnt, it has been determined based on traditional management of farmland that stubble burning is made every year in all parcels at the end of the harvest period. In the calculations ex-ante, Corn is used as farmland reference because is the most representative crop of the area. However, for real estimations the crop that is actually in the parcel or the one with major representation in the area could be taken as reference, when known. This reference crop should be corroborated for baseline renewal.

- Emissions from Fossil Fuel Combustion

The implementation of project activities will result on emissions, mainly due to the use of fuel for transporting goods and materials and of the patrolling personnel activities. Registries of fuel demand per activity will be carried, and with the total amount of used fuel we will estimate the total emissions using E-FFC module.

- Direct N₂O Emissions as a Result of Nitrogen Applications

Nitrogen applications will not occur inside the Project Area, with the exception of the fertilizer applications inside the Project's tree nursery which will be located outside the PA. Therefore, direct N₂O emissions resulting from these applications are not accounted⁵⁰ as they do not exist in the project area.

Information Management

There will be Standard Operating Procedures (SOPs) that will guide the monitoring activities, limiting the change that the incorporation of new staff members would cause. There will also be

⁵⁰ E-NA module sets out that when the only source of N₂O emissions is due to the application of fertilizer in tree nurseries outside the PA, then these emissions may be considered as negligible

forms and templates for each parameter that will allow documenting them clearly and consistently through time. Additional information considered as relevant by the field operator would be included. Also, the information will be kept in BAM servers and in physical formats (if it is its original form).

In-House Audit

The use of SOPs will minimize the error information to handle the project, both in terms of procurement (field survey) as well as in processing and storage. It will also allow us to estimate the uncertainty in the monitoring of each parameter, as required by module X-UNC, and keep it within the allowed range.

As additional information conservation measures, there will be:

- Training

It includes training of the staff in general in different roles to play within the structure of the project. However, in the aim to always have quality information, training will be prioritized at the critical points of management, which are the field collection and processing (head of evaluation and monitoring, field staff and GIS specialist). All staff must pass an induction process prior to execution of any activity related to monitoring.

- Field Verification

For each measurement made directly in the field, especially in the case of inventory (carbon stock, growth, degradation, etc.) or use of satellite images, verification will be designed to meet the statistical criteria allowing corroborating reliability of the information.

It will also be verified that the staff using the SOPs in their daily activities would do it without any difficulty.

- Reviewing Monitoring Reports before Delivery and Storage

Prior to the delivery of the reports to the headquarters, the Head of Monitoring and Evaluation will review all reports that have been made in field and by sub processing, in order that the information reaching the next team is completely cleared.

3.4.2 Dissemination of Monitoring Plan and Results (CL4.2)

The Monitoring Plan was already explained in the previous sub-section. Nonetheless, the project commits to include or adapt monitoring criteria if deemed necessary in the future, based on the results as they are obtained from continuous monitoring, with the aim to improve the analysis and reporting of impacts.

The plan and the monitoring results will be disseminated among the concessionaires, so they are aware of the activities and their impacts on their concessions. To do that, we will post these documents in BAM's website; we will give digital and hard copies to FEPROCAMD, its grassroots organizations and other local organizations (i.e. farming organizations), as well as to the forest offices of Tambopata and Tahuamanu. In addition, we will hold extra meetings if needed to ensure that the project communities and other stakeholders are kept informed.

3.5 Optional Criterion: Climate Change Adaptation Benefits

Not applicable.

3.5.1 Regional Climate Change Scenarios (GL1.1)

Not applicable.

3.5.2 Climate Change Impacts (GL1.2)

Not applicable.

3.5.3 Measures Needed and Designed for Adaptation (GL1.3)

Not applicable.

4. COMMUNITY

4.1 Without-Project Community Scenario

4.1.1 Descriptions of Communities at Project Start (CM1.1)

After the rubber (Shiringa) extractive fever, the Peruvian State began to promote the colonization of the jungle. Under this colonization stream many settlers arrived to the region of Madre de Dios, and dedicated themselves to the exploitation of timber and Brazil nut. The Brazil nut growers harvested the nut by means of contracts where they made trails or "estradas" that joined several Brazil nut trees, so the "estrada" often crossed each other. The Brazil nut growers respected this type of management and did not have any conflicts with natives in the Madre de Dios Brazil nut area for the exploitation of this resource. Brazil nut concessions were established under Law 27308, which prioritized the Brazil nut harvesting, established the concession polygons, and gave the Brazil nut growers priority to become concessionaires.

Many social, productive, and cultural groups can be identified in the region. Within the project area, Brazil nut concessionaires are the most relevant, who co-exist alongside farmers, and, to a lesser extent, some indigenous communities, and other producers such as loggers and miners (other stakeholders). The local populations in the Project Area are mainly composed of people engaged in economic activities such as Brazil nut collection, timber extraction and alluvial mining, as well as agriculture, livestock, services, and local employment. These groups are found in the main population centers, housing associations and other types of dispersed settlements.

Brazil nuts concessionaires (direct stakeholders)

Brazil nut activity in Madre de Dios represents an important source of economic income for the region's population. Around 6500 families are directly and indirectly involved in its extraction, which represents 22% of the total population of the department (Sánchez 2015: 2).

The history and development of Brazil nut production in the region dates back to the beginning of the 20th century during a process of social, economic and legal changes related to the Brazil nut activity. It is important to note that Madre de Dios is the only region in Peru where Amazonian Brazil nut trees exist and are sufficiently dense to allow for the economic exploitation of the nut. The commercial and export exploitation of this product began in the early 20th century, after the species was discovered by botanists Humboldt and Bonpland in 1807. The dynamics of the Brazilian nut activity have varied over time, which has had repercussions on the quality of the product and the social relations between the different actors involved in the value chain.

1930 – 1945: transition from the exploitation of rubber (syringa) to the Brazil nut. Brazil nuts were collected and shipped in the shell to Brazil and Bolivia where they were processed.

1947 – 1974: at the beginning of 1950, a first batch of Brazil nut was taken to Lima. Difficulties in accessing the BN groves made river routes necessary. The Brazil nuts shipment route to the Arequipa region lasted approximately one month by river and train. In 1960, with the construction of the Puerto Maldonado airport, the air route to Cusco began and then by land to Lima. The agrarian reform of 1969 reduced the possessions of large Brazil nut concessions. Change in the agrarian property of Peru took place.

1975— 1992: Brazil nut processing and exporting companies emerge, creating a relationship of dependency with the Brazil nut collectors and imposing prices, credits and transportation, limiting and controlling the BN producers. Organizations are created: the union of Brazil nut peelers, made up of 300 women, is an important milestone in terms of female participation in Brazil nut production.

1993— 1999: Decentralization of peeling and industrial automation: a period of economic recession that affects the price of Brazil nuts. Large exporting companies stop investing in Brazil nuts and small and medium-sized companies begin to compete in the BN market.

2000 – 2010: In 2000, the Forestry and Wildlife Law 27308 was enacted, incorporating new provisions for the management of Brazil nut concessions for a period of 40 years. The domestic and international market began to grow and the requirements and demands became stricter. In 2005, the construction of the southern inter-oceanic highway began, connecting Peru with Brazil and Bolivia and providing the Madre de Dios region with a communication route that it did not have before. The construction was completed in 2009 and brought a boom to the Madre de Dios market: it facilitated an increase in migration and illegal activities such as mining, land use change and logging.

2010 – to present

Brazil nut continues to be a predominant productive activity in the region. Brazil nut growers continue to collect Brazil nuts in the traditional way, with few productive improvements and depending economically on the value chain. Their participation is fundamental, but they are forced to regulate the prices imposed by the companies that buy and export Brazil nuts nationally and internationally.

The Brazil nut producer is in charge of organizing the entire collection process that takes place during the Brazil nut harvest, which occurs once a year (mainly between January and April). The Brazil nut producer works directly and, in some cases, also hires labor to carry out the extraction. Their salary is based on the volume they are able to harvest.

The main Brazil nut-growing areas are located in the basin of the Lower Madre de Dios River, as well as the Tambopata, Pariamanu, Paríamarca and Las Piedras rivers (IIAP 2006). They occupy the current provinces of Tambopata and Tahuamanu.

A socioeconomic diagnostic study of the 405 Brazilian nut families that make up the project (concessionaire partners) is presented below:

Table 4.1. Socioeconomic diagnosis of the 405 Brazil nut families

Sector	Number of concessions
Alegria	68
Alerta	55
La Novia	26
Manuripe	40
Loreto	22
Mavila	34
Planchón	47
Qda Ashipal	12
Qda Pariamanu	28
Río Pariamanu	30
Sabaluyoc	5
Varsovia	12
Other zones (less than 3 concessions per zone)	26
Total	405

Source: Socio-economic Diagnosis (2021)⁵¹.

According to the results obtained in the social diagnosis prepared in March 2021 to update the status and characteristics of the project partners, the following characteristics were found:

Population Characteristics	The most vulnerable population, i.e., those most likely to be poor or to suffer harm from a given risk or threat, are children and adolescents on the one hand and older adults on the other (Cecchini and Martinez, 2011). In the context of the Project, the following results were found in relation to the age of the beneficiaries: The ages of the partners are between the age ranges of 30 to 80 years old. it is worth mentioning that a large number are located in a life stage between 50 to 75 years old, representing 65% of the total number of partners. 37% of the total number of members identify themselves as vulnerable population aged 65 and over (senior citizens).
Migration	Within the framework of the project, 48.6% of the beneficiary population (partner concessionaires) belong to the Madre de Dios region and 51.4% are dispersed in different regions, especially Cusco (22.9%) and Puno (11.4%), which are regions adjacent to Madre de Dios but from a sociocultural perspective have other characteristics (Puno is highlands and Cusco combines highlands and jungle in its territory). In other words, approximately half of the concessionaires come from other regions of Peru, generating a cultural mix and traditional cultural changes.

⁵¹ Socio-economic diagnosis prepared for the baseline (updated in March 2021).

Education	There is a limited capacity and level of acquired learning (from a development and learning perspective) of both the beneficiaries and their respective counterparts. Analyzing and evaluating the educational level of the project partners, the results show a low educational level: 20% are located in an incomplete primary education level and an accumulated 60% are located in incomplete secondary education (for both men and women). In other words, 80% of the concessionaire members have not been able to complete their basic education and have a deficiency that places them in a condition of inequality with minimum literacy levels. Internet access continues to be a technology that a large number of households do not have (42.9%) and their access is through cell phones.
Economical productive + Family income	Considering that: the economic viability of the Brazil nut activity is linked to the productivity of the forest; the international market requires Brazil nuts that meet safety and quality standards; the organic market is a niche with many possibilities. Given these characteristics of the demand (commodities), the price of Brazil nuts depends on two factors: the price of other nuts and almonds; and the quantity available for sale, which depends on natural production. Almost 75% of the income is between 350 soles and 1,500 soles per month. Hence, on average, the annual income is approximately 11,100 soles, i.e., a monthly income lower (925) than the current minimum wage of the Peruvian government (Minimum Living Wage established by the Peruvian government is 930 soles). On average, the family household size is greater than 4. Therefore, according to the National Institute of Statistics of Peru (2020), "the Poverty Line is the monetary equivalent of the cost of a basic food and non-food consumption basket, which for 2020 amounts to S/. 360 per month per inhabitant, the person whose monthly expenditure is less than S/. 360 is considered poor; for a family of four the cost of a basic consumption basket is S/. 1,440 per month", many of the partner families of the project are in a situation of vulnerability (monetary poverty).

Source: Socio-economic Diagnosis (2021).

General Conclusions of diagnosis:

- Elderly population: 37% of partners have over 60 years old (60% men and 40% women).
- Poor levels of education: 40% of partners only have primary education.
- Economic poverty: The average income is located in a range between 500 to 930 soles (more than 70% of the population), which shows a need to seek other activities or opportunities in the face of unsatisfied basic needs. Brazil nut activity is their main economic income (70%).
- Immediate needs: family health (39%) and improving family economic income (36%).

4.1.2 Interactions between Communities and Community Groups (CM1.1)

The Brazil nut concessionaires have had diverse and different organizations over time.

There have been several efforts to create management committees that bring together Brazil nut concessionaires, mainly promoted by NGOs such as CESVI of Italy or WWF International. Usually, these initiatives have not been sustained over time.

Many of the Brazil nut concessionaires have traditionally worked independently, being related or grouped by sectors for specific activities (mainly Brazil nut trade). In many cases these organizational initiatives have not been formalized into associations or are not updated in public registries.

According to the directors of the Federation of Brazil nut producers of Madre de Dios and the presidents of the Associations (2.1.6) the Brazil nut producers or the Brazil nut sector do not have specific agreements or agreements with institutions or other productive groups within the Madre de Dios region.

The Peruvian Amazon Brazil Nut Collectors Association (Asociación de Recolectores de Castaña de la Amazonía Peruana— RONAP) was founded in 2003. RONAP groups 58 Brazil nut producers from Madre de Dios and has its own Organic Certification and Fair Trade Certification programs.

FEPROCAMD was founded on November 18, 2009 and registered with SUNARP on April 15, 2010 under certificate registration number 11016791. This organization represents 11 chestnut associations.

FEPROCAMD's current interaction and only support is with the REDD+ Project (405 of the total number of Brazil nut concessionaires grouped in FEPROCAMD participate in the project).

The interactions between the Brazil nut concessionaires who are project partners (direct stakeholders) and the Brazil nut concessionaires who are not project partners (indirect stakeholders) take place mainly through the FEPROCAMD, whose main reason for coming together is the production and commercialization of Brazil nuts and the type of concessions granted to them. Through FEPROCAMD, all concessionaires are part of an organizational structure that looks after their interests and those of their families.

According to its bylaws, the concessionaires are represented in associations, which in turn are represented on the board of directors of the FEPROCAMD. Likewise, they have established their governance, which contemplates assembly meetings with the participation of concessionaire members and non-members of the project.

Table 4.2. Departmental Federation of Brazil Nut Producers of Madre De Dios Based Associations

Nº	Name	Nº Of Certificate in Public Records
1	Asociación de Productores de Extractores de Castaña de Planchón	11016567
2	Asociación de Productores y Extractores de Castaña de Shiringayoc	11016632
3	Asociación Castañera Agroforestal de Carmen Rosa	11016658
4	Asociación de Productores y Extractores de Castaña de Mavila	11016615

Nº	Name	Nº Of Certificate in Public Records
5	Asociación Agroforestal Alegría, Alto Malecón San Carlos y Anexos	11015063
6	Asociación de Productores Castañeros y Agroforestales de Alerta	11016540
7	Asociación de Castañeros de Alegría	11000665
8	Asociación de Productores y Extractores de Castaña de Río Pariamanu y Afluentes	11016654
9	Asociación Castañera Agroforestal de Varsovia	11016652
10	Asociación de Productores y Extractores de Castaña de Loreto	11016672
11	Asociación de Extractores Productores Forestales y Agropecuario de La Novia	11006728

In relation to the other groups identified ("Other Stakeholders") in the project zone, interaction with Brazil nut concessionaires is not direct, as they do not have the same category of concession or land tenure, nor the same main activity/product (Brazil nut).

4.1.3 High Conservation Values (CM1.2)

Brazil nut forests fall under HCV areas as they are vital for communities in Madre de Dios. As mentioned, Brazil nut activity represents the main source of income for an important group of families in the region. This species (Brazil nut tree) is categorized as vulnerable and only lives in a conserved forest environment, therefore the Project activities seek to promote its conservation and the adequate management of its environment for the preservation of the Brazil Nut ecosystem.

High Conservation Value	Brazil nut forest located in the Tropical Andes hotspot and in the Vilcabamba Amboro Conservation Corridor (CCVA)
Qualifying Attribute	In Peru, Brazil nut forests only exist in the Madre de Dios region. Here, Brazil nut trees grow at a sufficient density for their nuts to be harvested. Project partners, concessionaires, depend (economically) directly on Brazil nut production. Traditionally, Brazil nut collection and commercialization is the main economic activity for the concession partners, which is further validated by the baseline study conducted in March 2021.
Focal Area	The area is located in the south of the project zone, the forests between the Madre de Dios, Los Amigos and Las Piedras rivers.

High Conservation Value	Species of high conservation value with some degree of threat in mammals of the families Felidae and Tapiridae and Dasyprocta.
Qualifying Attribute	Mammals are essential elements for the connectivity of ecological processes in a landscape, as they are important seed dispersers. Biodiversity loss has a direct impact on the food security of the beneficiary population because a change modifies the ecosystem and would also affect Brazil nut forests.
Focal Area	Brazil nut forest in the project area.

High Conservation Value	Water bodies.
Qualifying Attribute	Water bodies are essential for the maintenance of the Brazil nut forest and the ecosystem in general. Under these attributes its conservation is vital and relevant for the development and improvement of the production and maintenance of Brazil nut forests and hence the livelihood of project partners (included food safety).
Focal Area	Bodies of water rivers, streams and lakes located in the project area.

4.1.4 Without-Project Scenario: Community (CM1.3)

In the WITHOUT project scenario:

- The Brazil nut community was disorganized, not having the strength or position to access local / national authorities, as well as not being able to participate in forums and tables of interest for the development and welfare of the community. Likewise, they did not have the strength to act in an articulated manner to defend their interests and/or gain market power.
- The community was dedicated to the Brazil nut activity in a traditional way, with low productive efficiencies, having limited commercial access (concessionaires usually depend on third parties to be able to harvest their Brazil nuts, compromising the price of their products). It is worth mentioning that the Brazil Nut activity is carried out at a certain time of the year (harvesting season), so the Brazil Nut farmers -in the scenario without the project- do not have an adequate or sustainable income to support their families throughout the year.
- Having scarce or limited resources, in the without project scenario, the concession holders do not have the necessary capacities or tools to comply with the requirements established by law in their concession contracts: for example, to comply with the boundaries and signaling of their concessions, the corresponding forest inventory, and the adequate development of the forest management plans.
- With scarce or limited resources, in the without project scenario, concessionaires do not have the capacity or adequate tools to defend their forests against the growing threats in the region, such as illegal logging, illegal mining, encroachment, etc.

4.2 Net Positive Community Impacts

4.2.1 Expected Community Impacts (CM2.1)

The project expects to generate positive community impacts related to the project's strategic lines and activities (Theory of Change Matrix). The project's community impacts have been estimated based on ongoing consultations and coordinated work with the community and the Federation of Brazil nut producers FEPROCAMD.

Table 4.3. Expected community impacts

Community Group	Project partners: 405 Brazil nut concessionaires
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Impact(s)	- Concessionaires have better skills and knowledge and/or greater support to monitor and manage their concessions in front of deforestation risks. - Concessionaires have greater capacities and/or greater support to manage their concessions, complying with their commitments established in their concession contracts celebrated with the Peruvian State. - Concessionaires have access/capacities to improve their livelihoods around the conservation and sustainable management of forest resources (Brazil nut activity and others around sustainable forestry management). - Concessionaires have the support of a Federation and a project to protect their forests and improve their living standards. - Brazil nut sector are represented in front of: the project; authorities at different levels of government; other stakeholders.
Type of Benefit/Cost/Risk	Actual and Direct Benefits
Change in Well-being	- Avoiding the deforestation of Brazil nut forests, which are the main livelihood and patrimony of the concession holder families and, specifically, favoring the conservation of the Brazil nut tree, guaranteeing its production over time, allows concession holder families to continue living from the forest resources in a sustainable manner, being able to face the threats that affect their areas. - Improve the economic capacity and livelihood of the Brazil nut sector, providing access to other sustainable revenue streams different than Brazil nut production and commercialization. - Improve the representativeness of the Brazil nut sector through FEPROCAMD

4.2.2 Negative Community Impact Mitigation (CM2.2)

As this project promotes forest conservation and the well-being of the communities and the environment, no negative impacts are expected. However, the project identifies and establishes strategies to avoid and minimize any conflict between project stakeholders, and to protect HCV areas related to community wellbeing, considering strategies such as:

- Action plan and visibility: having a socialized plan of project activities, giving clarity in the management of REDD+ Brazil nut concessions through regular meetings and collaborative work with the community and their representatives, FEPROCAMD.
- Two-way communication: having a mechanism for receiving grievances and maintaining formal and informal communication channels to ensure bilateral communication with the representatives of the Federation and the community.
- Monitoring and control of the areas: implementing different activities, including monitoring and surveillance of the areas, with the participation of the community through advice, training strategies and coordinated work with the FEPROCAMD.
- Demarcation of areas: providing support to clearly define the limits of the project areas, providing the necessary technical and legal advice to resolve any type of conflict between neighbors.

4.2.3 Net Positive Community Well-Being (CM2.3, GL1.4)

As indicated in the objectives and expected results of the project (CM2.2), through the implementation of the REDD+ Brazil nut concessions project, improvements in the living conditions

of the 405 project partners and their families are expected, as well as their capacity to sustainably manage and live from their forests. This is achieved through:

- Improving their situation with respect to the Brazil nut activity: compared to the scenario without the project (traditional BN activity with low productive efficiency and commercial power), under the project, the concessionaire families are expected to strengthen their productive and commercial capacity in relation to Brazil nut, being organized in a consolidated Federation that represents and watches over their interests.
- The project aims at providing concessionaires with access to other sustainable activities related to sustainable forest management and conservation: income from the sale of carbon credits and/or the development of productive activities such as reforestation and others, possibilities to which they did not have access to in the scenario without the project.
- Strengthening their capacities and providing them with support and/or tools to monitor their forests, providing them to support (technical, legal) to defend their areas against possible threats and to manage their concessions according to the requirements established by law (through FERPOCAMD or the Project). Facilities that they would not have in the without-project scenario.

Measures taken to safeguard the impacts of climate change include, for example:

- Income diversification (resources for the community): the project aims to promote, in addition to the efficiency in the Brazil nut activity, the generation of other sustainable revenue streams for the benefit of the community, around sustainable activities such as reforestation, agroforestry, the use of other non-timber products, among others.
- Forest recovery and reforestation: the project aims to promote the conservation of ecosystems, supervising and providing support for the correct management of the areas. The project also seeks to promote other regeneration activities such as reforestation in clearings, with Brazil nuts or other species for the benefit of the forest and the community.
- Training: The project aims to promote continuous training for the community in aspects such as conservation, respect for biodiversity, proper use of forest resources, and the development of sustainable productive activities, among others. In this way, the community is trained in the development of skills and the generation of tools to live in harmony with the forest and to mitigate any risks that deforestation entails.

4.2.4 High Conservation Values Protected (CM2.4)

The project will not negatively affect any High Conservation Value; on the contrary, the purpose of the project is to preserve the ecosystem and the environmental services housed in the Brazil nut forests, ensuring proper forest management and sustainable extraction of its resources (Brazil nut), as well as promoting the importance of its conservation for the environmental balance and the long-term benefit of the communities.

It is important to note that Brazil nut harvesting is primarily a seasonal activity that does not affect the soil (compaction and dumping of fuel or mercury) or the regeneration of the forest (intense logging, slash and burn), nor does it affect Brazil nut production. In addition, this activity is not a threat to wildlife as are other activities such as cattle ranching, agriculture, or mining.

4.3 Other Stakeholder Impacts

4.3.1 Impacts on Other Stakeholders (CM3.1)

Community Group	Other stakeholders: concessionaires non-project partners
Impact(s)	Through the benefits and support of a Federation constituted and with resources that allow the implementation of efforts and activities for the welfare of the Brazil nut sector: - Concessionaires have support to monitor and manage their concessions. - Concessionaires have the support of a Federation to protect their forests and improve their living standards. - Brazil nut sector are duly represented in front of: the project; authorities at different levels of government; other stakeholders.
Type of Benefit/Cost/Risk	Actual and Indirect Benefits
Change in Well-being	- Avoiding the deforestation of Brazil nut forests, which are the main livelihood and patrimony of the concession holder families and, specifically, favoring the conservation of the Brazil nut tree, guaranteeing its production over time, allows concession holder families to continue living from the forest resources in a sustainable manner. - Improve the productivity, efficiency and economic situation of the Brazil nut activity, favoring the wellbeing of the community. - Improve the relationship of concession families with forests, being part of an organization that looks after their interests and wellbeing.

Community Group	Other stakeholders: Other producers in the buffer zone of the project
Impact(s)	- Communities have greater access to training (tools) with respect to the sustainable management of the forest and the environment. - The communities have greater access to local authorities, being able to attend training and other meetings to articulate efforts for the management of their areas and their wellbeing. - The communities belong to a region that promotes conservation and addresses threats that may affect their well-being.
Type of Benefit/Cost/Risk	Indirect Benefits
Change in Well-being	Improve the relationship between the communities and the environment, in a region that promotes conservation and where there is a stronger articulation effort between the communities, groups and the authorities.

4.3.2 Mitigation of Negative Impacts on Other Stakeholders (CM3.2)

As this project promotes forest conservation and the well-being of its stakeholders and the environment, no negative impacts are expected. However, the project identifies and establishes

strategies to avoid and minimize any conflict between project stakeholders (“other stakeholders”), and to protect HCV areas related to community wellbeing, considering strategies such as:

- Demarcation of areas: the project provides support to concession partners to clearly define the boundaries of their areas (project areas), providing the necessary technical and legal advice to resolve any conflicts between neighbors (concessionaires and other communities). In the case of concessionaires that are not part of the project, this advice and support is provided through the FEPROCAMD Federation, which in turn receives support from the project. In this way, it is aimed that the area of influence is sanitized and in compliance with the law, thus minimizing conflicts between the identified groups.
- Training in conservation and sustainable forest management: the project seeks to promote training in sustainable management and conservation among the different stakeholders, in order to promote the use of forest resources in a sustainable manner, taking pressure off the forest and minimizing any type of conflict in relation to the use or harvesting of forest resources (e.g. timber).
- Promotion of sustainable activities: the project, through FEPROCAMD, seeks to promote sustainable activities with regional initiatives, taking pressure off the forest and minimizing any type of conflict in relation to the use or harvesting of forest resources (e.g. timber).

As indicated above, the project does not involve or will involve the displacement of any group or community in the area of influence.

4.3.3 Net Impacts on Other Stakeholders (CM3.3)

Impacts on other stakeholders (indirect) are expected to be positive compared to the conditions in the without-project scenario.

Activities promoted by the Project and through FEPROCAMD will seek to benefit all concessionaires (partners and non-partners) and other groups outside the project area.

Through FEPROCAMD, and in the framework of the REDD+ project, non-partner concessionaires can have the possibility of belonging to a consolidated, well-established organization with resources to support them in the adequate management of their areas in compliance with the requirements stipulated by law, productive/commercial initiatives around the Brazil nut activity, among others. FEPROCAMD is expected to represent their interests for the wellbeing of their families.

Other stakeholders can have access to training for the adequate management of their areas and the promotion of conservation initiatives in the region, being able to reach regional authorities.

As indicated above, the project does not involve or will involve the displacement of any group or community in the area of influence.

4.4 Community Impact Monitoring

4.4.1 Community Monitoring Plan (CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

The community monitoring plan is detailed below, which responds to the objectives established in the Theory of Change Matrix.

Table 4.4. Community Monitoring Plan

Communities objectives	Variable	Indicator	Method	Who measures	When
Strengthen the organizational and management capacity of the Federation and its members to ensure the sustainable and integrated management of forest concessions.	Brazil nut regional organization	Active organization following its bylaws	Federation activity report review	Project proponent	Every two years
	Women in relevant positions in the organization	# of women in relevant positions	Federation activity report review	Project proponent	Every two years
	Management documents for sustainable forest management	# of management documents approved by authorities	Project report review	Project proponent	Every year
	Service of ordering and bordering of concessions (concession demarcation).	# of ordering and bordering services provided to concessionaires	Project report review	Project proponent	Every year

Objective	Variable	Indicator	Method	Who measures	When
Provide commercial and operational support to increase income generated by the Brazil nut activity and other sustainable economic activities, improving the livelihoods of the community.	Knowledge and tools for the development of sustainable economic activities	# of trainings	Project report review	Project proponent	Every year
	Productive and commercial initiatives for income increase.	# of initiatives implemented or in process.	Project report review	Project proponent	Every year
	Women participating in productive and commercial initiatives.	# of women participating.	Project report review	Project proponent	Every year
	Income of project's Brazil nut producers	Percentage increase of income	Survey	Project proponent	Every year
	Livelihood of project's Brazil nut producers	Perception of livelihood improvement by smallholders	Survey	Project proponent	Every year
		Perception of livelihood improvement by women of the project	Survey	Project proponent	Every year

		Perception of livelihood improvement by vulnerability community group identified in the project (elderly people)	Survey	Project proponent	Every year
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4.4.2 Monitoring Plan Dissemination (CM4.3)

As with all relevant project management documents, the results of the monitoring plan will be shared with the community at least once a year through its representatives (FEPROCAMD board of directors) and with the community at project meetings and/or Federation assemblies. The results of the monitoring plan will be presented with the respective summaries and in a comprehensible manner for the understanding of the community. This document will be posted on BA's website www.bosques-amazonicos.com.

4.5 Optional Criterion: Exceptional Community Benefits

The project seeks to be validated at the Gold Level to obtain exceptional benefits for the community.

4.5.1 Exceptional Community Criteria (GL2.1)

In line with the first condition of the "exceptional community criteria", the 405 Brazil nut concessionaires' partners of the project have the legal right to hold and manage the Brazil nut concessions in accordance with the provisions of their concession contracts held with the Peruvian state and recognized under Peruvian forestry law.

The project aims to provide concessionaires with greater capacities and tools to properly manage their concessions, confront the threats of deforestation and ensure a dignified life for them and their families through conservation and sustainable forest management. Realities that they would not have in the scenario without the project. Therefore, it is because the concessionaires achieve a better position and strength to achieve the objectives described above that it is possible to curb the deforestation trend in the project area and therefore achieve emission reductions, favouring the improvement of community welfare and the protection of biodiversity. It is the concessionaires who have the legal right to the carbon (emissions reductions).

It is important to mention that all the concessions within the project's area, that involve the 405 project partners, are classified as Concessions for Forest Products other than Wood, according to the National Forest Supervision Agency, which grant them with the rights of management of the land for up to 40 years, with the possibility to renew it.

4.5.2 Short-term and Long-term Community Benefits (GL2.2)

Table 4.5. Expected results of the Project in the short and medium term

Impact	Short term	Long term
Strengthened organization and management capacities of the FEPROCAMD and the concessionaires.	The first strategy of the REDD+ project was the consolidation of FEPROCAMD and its 11 different associations, facilitating the organization and strengthening of the Brazil nut families in a structure that seeks their wellbeing. Thanks to this achievement, over the years FEPROCAMD has been able to maintain its relevance and represent its members in their audiences of interest as regional and national authorities. See file: FEPROCAMD STRUCTURE and Project Activities.	The Brazil nut producers grouped in the FEPROCAMD are partners in the project. With the support of the FEPROCAMD and the assurance of its compliance (bylaws), the project intends to ensure the correct representation of the needs and decisions of the concessionaire families in the long term. See file: FEPROCAMD STRUCTURE and Project Activities / FEPROCAMD INFO The initiatives proposed by the Federation respond to the decision of the majority of its members, which include training activities, improvement of their living conditions, promotion of productive activities, among others, that support long-term growth and improvement for Brazil nut families.
Improvement of the economic capacity of the project partners related to the Brazil nut activity and other sustainable activities.	Over the years, through the federation and the project implementation, initiatives that seek to improve the productive and commercial conditions of Brazil nut concessionaires have been promoted (e.g., financing, participation in fairs, grouped sales, certifications, among others). See file: Project activities. The project also seeks to generate resources for the community as a result of forest conservation and the consequent sale of certified emission reductions (carbon credits) in the international market. From 2021 the project has been delivering economic benefits to the community as a result of the sale of carbon credits. See file: Benefit Sharing	The project seeks to implement productive and commercial initiatives and pilots aimed at providing concessionaires with a better position with respect to the commercialization of Brazil nuts, as well as giving them access to new sources of sustainable income from forest management (e.g. reforestation, agroforestry, etc.) and conservation. These initiatives imply their maintenance and sustainability in the long term, and are designed to provide short and long term flows for the concessionaires in a sustained basis. See file: Project Activities / Productive Value Chains (pilots)

Impact	Short term	Long term
Concessionaires with greater capacities to adequately manage their concessions	Since the beginning of the project, the partners have constantly received training about the proper management of their concessions following the national regulations. The project and the FEPROCAMD also provides the concessionaires the technical support and tools that help them manage, monitor and protect their Brazil nut concessions in compliance with their commitments established by law. This support is reflected by the assistance given for the elaboration of management documents, the legal support, the ordering and bordering of their concessions, as well as the monitoring control and surveillance system. See file: Project activities	The permanent training provided to concessionaires, the services and tools that they have in the project, and the joint work with the national and regional authorities ensure that the concessionaires will have greater capacities in the long term to adequately manage their concessions. See file: Project activities / meetings and workshops.

4.5.3 Community Participation Risks (GL2.3)

As this project promotes forest conservation and the well-being of the communities and the environment, no negative impacts nor risks of participation are expected. The project's partner concessionaires who voluntarily participate in the project are direct beneficiaries, who receive both benefits from the implementation of activities whose purpose is to contribute to their well-being and from the possible economic benefits given to the community from the sale of carbon credits.

As indicated in the stakeholder consultation section, from its design, the project is implemented with the welfare of the community in the forefront and taking into account the needs and decisions of the community for the development of its activities on an ongoing basis (see file Supporting Documents Feedback and Grievance).

The project takes measures to mitigate conflicts between stakeholders as indicated in Sections 4.2.2 and 4.3.2. The general risks of the project are detailed in the Section 2.1.12 with their corresponding mitigation measures.

4.5.4 Marginalized and/or Vulnerable Community Groups (GL2.4)

Community Group	Brazil nuts concessionaires in the project area. 37% of the total members, are identified as a vulnerable population aged 65 to older (elderly), as can be seen in the socio-economic diagnosis from Section 4.1.1.
Net positive impacts	The expected benefits are framed in <u>generating better living conditions</u> for each of the families that make up the 405 partners of the project. The expected positive impacts are described in point 4.2.1 and in the specific case of vulnerable populations, access to a direct benefit from the sale of carbon credits

	is expected to improve current living conditions from the <u>increase in family economic income in the short and long term.</u>
Benefit access	Organizational strengthening of the representative body that makes up the FEPROCAMD allows transparency and strength to access and achieve benefits for all its members. The compliance of the organization's bylaws and the project's engagement strategies, ensure the representation of vulnerable population, including the elder, with the proper safeguards, monitoring processes, and grievance mechanisms. In regard of a possible barrier of accessing benefits related to the activities developed by the project because of difficulties of mobility or access that affect elderly people, the project develops activities in different locations considering the distances and accessibility to allow everyone to attend and participate. The initiatives promoted by the project include other family members that can support the concession holder (elderly).
Negative impacts	No negative impacts are expected as it has been mentioned. All project partners will receive equally the benefits from the project (from the sales of the carbon credits and from the activities implemented). The measures proposed by the project to monitor the access of the benefits by the elderly, include the permanent engagement with them and their families, through meetings, visits, and trainings, creating spaces of dialogue that enable the identification of any marginalized or vulnerable member and other possible impacts related to project.

4.5.5 Net Impacts on Women (GL2.5)

The project will generate net positive impacts on the well-being of women by directly participating in the implementation of project activities and in decision-making. These impacts will be guaranteed through:

- The implementation and compliance of the equal opportunities and anti-discrimination policy described in Section 2.3.11. With this, it will seek to put an end to all forms of discrimination against all women during the implementation of the project and promote strategies to enforce and monitor equality and non-discrimination based on gender.
- The full and effective participation of women and equal leadership opportunities at all levels of the project and the FEPROCAMD (See File Supporting Documents Women Gender).
- Specific monitoring indicators to ensure the net positive impacts on the well-being of women.

The project has the direct participation of 150 female concessionaires who represent 37% of the total number of partners (405) (See File Supporting Documents Women Gender). Equality in participation is promoted, as well as the empowerment of women as leaders.

4.5.6 Benefit Sharing Mechanisms (GL2.6)

The only source of income for the project is the sale of carbon credits generated by the conservation efforts carried out and verified.

With the proceeds achieved from sales of carbon credits, the policy is: firstly to provide the necessary funding to cover all activities proposed, required and budgeted by the Project, in order to achieve its conservation and sustainability goals. This is required for the optimal planning, implementation and monitoring of the Project strategies (Theory of Change Matrix). This budget includes the activities necessary for the correct development of the community in relation to the sustainable management of the concessions. Activities such as: monitoring, reporting and control of the area; admin and logistic equipment; admin, accounting and operational costs; human resources; community relations; training workshops for strengthening concessionaire's capacities in sustainable forestry management; general communication; technical and legal advice for members; concession ordering and bordering, productive initiatives for community wellbeing, among others.

Each year the project defines a plan and budget that includes the activities to be carried out in that period in order to achieve its objectives. As previously mentioned, the annual budget is worked on by BAM in conjunction with the leaders of FEPROCAMD and is approved by both parties. In this sense, the project receives the opinion and approval of the community in defining the strategies and activities to be implemented. Likewise, community leaders have access to progress reports on project execution, which are shared within their organizational structure.

After covering all project costs, the surplus (profit) is shared between the project partners, BAM and the concessionary families (FEPROCAMD), according to the framework agreement established between the parties. This general agreement is fully known by FEPROCAMD and all partners.

With respect to carbon credit revenues, BAM, as the entity responsible for marketing the credits, has the agreement to send annually a complete sales report (volumes, prices, sales commissions, etc.) to the management of FEPROCAMD, which socializes this information among its members. This information is also shared with the concessionaires at meetings promoted by the project and FEPROCAMD.

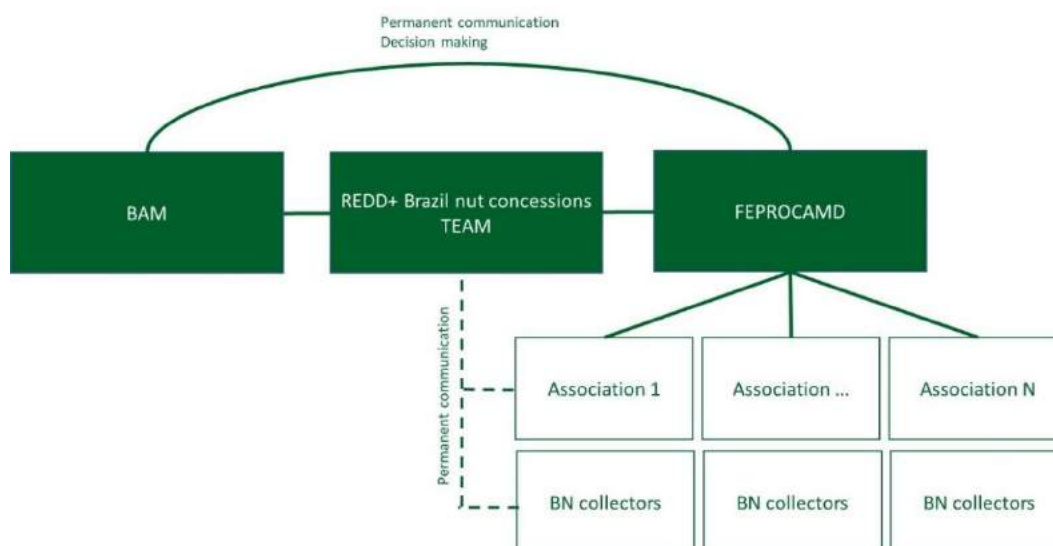
4.5.7 Benefits, Costs, and Risks Communication (GL2.7)

During the socialization processes, the concessionaires and the different stakeholders have been informed of the costs, risks and benefits of the project as previously demonstrated. Only concessionaires who have voluntarily decided to participate in the project have been incorporated into it, as indicated in section Stakeholder Consultation.

As detailed above, concessionaires are informed of the progress and implications of the project, communicated through the FEPROCAMD structure and in meeting sessions with all its members. FEPROCAMD representatives, on behalf of its members, have a direct influence on the approval/disapproval of the course of project activities. In addition, the progress and general aspects of the project are communicated through the communication channels described, such as social networks, posters and newsletters, among others. The governance structure is explained below.

4.5.8 Governance and Implementation Structures (GL2.8)

Figure 4.1. Governance and Implementation Structures



In-house elaboration.

BAM (private company) and the Madre de Dios Brazil nut concessionaires that have decided to participate in the REDD+ project, also grouped in the FEPROCAMD, are partners in the project. The partner concessionaires are part of a structure that is supported by different sector associations and finally by the Federation's board of directors (president and board members). Through the FEPROCAMD structure, the needs and decisions of the majority of the concessionaires are raised by their representatives for the development of the project.

The project has designated a team of professionals who are dedicated to implementing the different activities proposed (theory of change matrix). The project team reaches both the federation's representatives and all its partners, for example in the spaces of the events that are held (periodic meetings) and by establishing one-to-one meetings and consultancies to meet their needs.

Table 4.6. Departmental Federation of Brazil Nut Producers of Madre de Dios Based Associations

N°	Name	N° Of Certificate in Public Records
1	Asociación de Productores de Extractores de Castaña de Planchón	11016567
2	Asociación de Productores y Extractores de Castaña de Shiringayoc	11016632
3	Asociación Castañera Agroforestal de Carmen Rosa	11016658
4	Asociación de Productores y Extractores de Castaña de Mavila	11016615
5	Asociación Agroforestal Alegría, Alto Malecón San Carlos y Anexos	11015063
6	Asociación de Productores Castañeros y Agroforestales de Alerta	11016540
7	Asociación de Castañeros de Alegría	11000665
8	Asociación de Productores y Extractores de Castaña de Río Pariamanu y Afluentes	11016654
9	Asociación Castañera Agroforestal de Varsovia	11016652
10	Asociación de Productores y Extractores de Castaña de Loreto	11016672

Nº	Name	Nº Of Certificate in Public Records
11	Asociación de Extractores Productores Forestales y Agropecuario de La Novia	11006728

4.5.9 Smallholders/Community Members Capacity Development (GL2.9)

The smallholders in the project are the Brazil nut concessionaires. The strengthening of their organization (FEPROCAMD) is a pillar of the project to achieve and generate active, effective and independent participation that allows the partners to have as support a strengthened organization and with the capacity to provide the advice they need to each project partner.

The project's theory of change matrix includes community training on sustainable forest management, area monitoring and other related topics, involving the Brazil nut-growing community. These training meetings are occasionally held in cooperation with other organizations and authorities such as OSINFOR and SERFOR. See file: Project activities / meetings and workshops.

Among others, the project also provides ongoing technical and legal assistance to improve the knowledge of concessionaires regarding the proper management of their areas over time. See file: Project activities.

5. BIODIVERSITY

5.1 Without-Project Biodiversity Scenario

5.1.1 Existing Conditions (B1.1)

For the evaluation of the existing conditions of the project area, it was based on information from primary and secondary sources, referring to studies at the regional level. Madre de Dios is designated "The Capital of Biodiversity of Peru" as part of the Biodiversity Center of the Tropical Andes (Myers et al., 2000)⁵² (Federal Law 26311). The southwestern Amazon is within the priority terrestrial ecoregion (ETP) or hotspot known as the Tropical Andes, which contains the greatest richness of species, biological diversity and endemism on the planet. Located between Venezuela and Argentina, it contains approximately 15% of the biodiversity and 50% of the endemism of vascular plants in the world, respectively. It contains not only a great diversity, but also a great endemism of vertebrates: 73% amphibians, 46% reptiles, 41% birds and 16% of the world's endemic mammals. The protected areas of the Tropical Andes conserve some of the most important remains of this hotspot, the areas of greatest relevance being represented by: 1) Manu, the largest tropical rainforest biosphere reserve on the planet, and 2) the protected areas Tambopata-Madidi, located on the border between Peru and Bolivia in the richest part of this hotspot, which has the greatest biodiversity on earth and whose creation constitutes an important

⁵² Myers, N., Mittermeller, R. A., Mittermeller, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature* 2000 403:6772, 403(6772), 853–858. <https://doi.org/10.1038/35002501>

achievement for the conservation of biodiversity (Mittermeier et al., 2005; Myers, 1988; Myers et al., 2000)⁵³.

Strategic ecosystems

The Brazil nut forests within the project area are unique in Peru. However, there are few studies of its fauna. Kirkby (1999)⁵⁴ points out that medium and large-sized species such as Tapir (*Tapirus terrestris*), Black Capuchin Monkey (*Cebus apella*), Tamarin (*Saguinus fuscicollis*), Titi Monkey (*Callicebus brunneus*), and Ocelot (*Leopardus pardalis*) are negatively affected by the pressure of the hunt. On the other hand, other species are favored by the reduction of their natural predators such as the Squirrel Monkey (*Saimiri boliviensis*), Kinkajou (*Potos flavus*), Red Brocket (*Mazama americana*) and Southern Red Squirrel (*Sciurus spadiceus*)

The book "Standard for the Certification of Forest Management for Brazil nut Production Purposes in Peru" indicates that the fruits and seeds of the Brazil nut are frequently consumed by Macaws (*Ara ararauna*, *Ara macao*, *Ara chloropterus*), Agouti (*Dasyprocta variegata*), Paca (*Cuniculus paca*), Southern Red Squirrel (*Sciurus spadiceus*), Bolivian Squirrel (*Sciurus ignitus*), White-lipped Pecary (*Tayassu tajacu*), Collared Pecary (*Tayassu pecari*), Black Capuchin (*Cebus apella*) and White Capuchin (*Cebus albifrons*). The seedlings are mainly consumed by Tapir (*Tapirus terrestris*), Red Brocket (*Mazama americana*) and Ash Deer (*Mazama gouazoubira*). In addition, the Brazil nut tree is frequently used by the Harpy Eagle (*Harpia harpyja*) and the crested eagle (*Morphnus guianensis*) as a nesting site.

Madre de Dios is also recognized worldwide as a conservation priority due to its relatively intact forests, exceptionally high levels of biodiversity, strategic location in the connection of large natural parks in Peru, Bolivia and Brazil, and projected resistance to climate change (Killeen & Solórzano, 2008; Malhi et al., 2008; Rosenthal et al., 2012)⁵⁵. In addition to the high biological value of the Madre de Dios and the western Amazon in general, the region is also home to a rich mosaic of cultural diversity, including some of the last uncontacted indigenous peoples living in voluntary isolation (Shepard et al., 2010)⁵⁶.

Before the mid-1960s, Madre de Dios had few inhabitants and little development. This changed after the construction of the InterOceanic Highway. Since then, human population and land cover

⁵³ Mittermeier, R., Robles Gil, P., Hoffman, M., Pilgrim, J., Brooks, T., Goettsch Mittermeier, C., Lamoreux, J., & da Fonseca, G. (2005). Hotspots Revisited Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. Conservation International.

Myers, N. (1988). Threatened biotas: "Hot spots" in tropical forests. *Environmentalist* 1988 8:3, 8(3), 187–208. <https://doi.org/10.1007/BF02240252>

Myers, N., Mittermeler, R. A., Mittermeler, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature* 2000 403:6772, 403(6772), 853–858. <https://doi.org/10.1038/35002501>

⁵⁴ Kirkby, C. (1999). The impact of the Brazil nut activity in the wildlife of Madre de Dios, Peru.

⁵⁵ Killeen, T. J., & Solórzano, L. A. (2008). Conservation strategies to mitigate impacts from climate change in Amazonia. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363(1498), 1881–1888. <https://doi.org/10.1098/RSTB.2007.0018>

Malhi, Y., Roberts, J. T., Betts, R. A., Killeen, T. J., Li, W., & Nobre, C. A. (2008). Climate change, deforestation, and the fate of the Amazon. *Science*, 319(5860), 169–172. https://doi.org/10.1126/SCIENCE.1146961/SUPPL_FILE/MALHI_SOM.PDF

Rosenthal, A., Stutzman, H., & Forsyth, A. (2012). Creating mosaic-based conservation corridors to respond to major threats in the Amazon headwaters. *Ecological Restoration*, 30(4), 296–299. <https://doi.org/10.3368/ER.30.4.296>

⁵⁶ Shepard, G. H., Rummenhoeller, K., Ohl-Schacherer, J., & Yu, D. W. (2010). Trouble in Paradise: Indigenous Populations, Anthropological Policies, and Biodiversity Conservation in Manu National Park, Peru. <https://doi.org/10.1080/10549810903548153>, 29(2), 252–301. <https://doi.org/10.1080/10549810903548153>

conversion have increased substantially and the region has experienced comparatively high levels of forest disturbance and deforestation in Peru (Oliveira et al., 2007)⁵⁷. During the 1980s and 1990s, the loss of primary forests in Madre de Dios was mainly due to government-subsidized agricultural expansion (Alvarez & Naughton-Treves, 2003; Chavez & Perz, 2012)⁵⁸. In the 2000s, gold mining became a major driver for regional LULC following the discovery of gold deposits and the increase in its price internationally (Asner et al., 2013; Swenson et al., 2011)⁵⁹. Since the discovery of gold, an estimated 30,000 artisanal miners have migrated to Madre de Dios (Webster, 2012)⁶⁰. ~ 95% of gold mining operations in the region would be illegal either because miners lack the necessary permits to run their operations or because they are working outside of authorized mining concessions (Keane, 2009)⁶¹.

Fauna

The Brazil nut forests of the project area are ecosystems that serve as habitats for multiple species of birds, mammals, reptiles and amphibians. Based on the data obtained in the baseline that applied the methodology, the development of the biological baseline was Conservation International's Rapid Assessment (RAP) carried out in the wet season in March 2021 in three zones in forests of Brazil nut concessions located in the populated centers of Mavila (zone 1), Alerta (zone 2) and Alegría (zone 3), using a total sampling effort of six effective evaluation days with 140 hours and 143.9 kilometers. The taxonomic groups that represent the diversity of species and at the same time respond to the objectives of the project were evaluated (Warman et al., 2004). These taxa were selected considering their ecological importance, ease of sampling, performance in biodiversity assessments, sensitivity to habitat alterations, taxonomic knowledge, and frequent use in baselines, biological monitoring, and environmental impact studies. The groups evaluated larger mammals, larger birds, and amphibians and reptiles.

As a result of the ornithofauna evaluation, 547 records (direct and indirect) were obtained, a total of 441 individuals seen, divided into 17 orders, 38 families, 156 genera and 224 species, registering for zone 1, 156 species, for the zone 2, 128 species and for zone 3, 109 species. The mammozoology evaluation registered 35 species in the Brazil nut concessions of which 30 were reported in Mavila, 23 in Alerta and 23 in Alegría.

⁵⁷ Oliveira, P. J. C., Asner, G. P., Knapp, D. E., Almeyda, A., Galván-Gildemeister, R., Keene, S., Raybin, R. F., & Smith, R. C. (2007). Land-use allocation protects the Peruvian Amazon. *Science*, 317(5842), 1233–1236. https://doi.org/10.1126/SCIENCE.1146324/SUPPL_FILE/OLIVEIRA.SOM.PDF

⁵⁸ Alvarez, N. L., & Naughton-Treves, L. (2003). Linking national agrarian policy to deforestation in the Peruvian Amazon: a case study of Tambopata, 1986-1997. *Ambio*, 32(4), 269–274. <https://doi.org/10.1579/0044-7447-32.4.269>

https://doi.org/10.1073/PNAS.1318271110/SUPPL_FILE/PNAS.201318271SI.PDF

Chavez, A. B., & Perz, S. G. (2012). Adoption of Policy Incentives and Land Use: Lessons From Frontier Agriculture in Southeastern Peru. *Human Ecology* 2012 40:4, 40(4), 525–539. <https://doi.org/10.1007/S10745-012-9494-3>

⁵⁹ Asner, G. P., Llactayo, W., Tupayachi, R., & Luna, E. R. (2013). Elevated rates of gold mining in the Amazon revealed through high-resolution monitoring. *Proceedings of the National Academy of Sciences of the United States of America*, 110(46), 18454–18459.

Swenson, J. J., Carter, C. E., Domec, J. C., & Delgado, C. I. (2011). Gold Mining in the Peruvian Amazon: Global Prices, Deforestation, and Mercury Imports. *PLOS ONE*, 6(4), e18875. <https://doi.org/10.1371/JOURNAL.PONE.0018875>

⁶⁰ Webster, D. (2012). The Devastating Costs of the Amazon Gold Rush. *Smithsonian Magazine*.

<https://www.smithsonianmag.com/travel/the-devastating-costs-of-the-amazon-gold-rush-19365506/>

⁶¹ Keane, L. (2009). Rising prices spark a new gold rush in Peruvian Amazon. *The Washington Post*. <http://www.minesandcommunities.org/article.php?a=9776>

The results of the evaluation of flora record of a total of 175 Individuals, 82 species, 69 Genera, and 31 Families present the predominance of juvenile species, with diameters between 0.10 and 0.29 meters of DBH.

They found several species of threatened wildlife. For Peruvian legislation, wild fauna resources are non-domesticated animal species that live freely and specimens of domesticated species that by abandonment or other causes are assimilated in their habits to wildlife, except species other than amphibians that are born in marine and continental waters that are governed by their own laws (Law 27308 Forestry and Wild Fauna), however the biological definition has a broader meaning: Fauna is the set of animal species that inhabit a geographic region, which They are typical of a geological period or that can be found in a specific ecosystem.

For this reason, work was carried out on the systematization of the list of threatened species and included in national protection lists (Supreme Decree No. 004-2014-MINAGRI), which approves the updating of the list of classification and categorization of threatened species. of legally protected wildlife, approved by (DS N ° 034-2004-AG)

Table 5.1. List of threatened species

Category	Abbreviations
Extinct	EX
Extinct in wildlife	EW
Critically endangered	CR
Endangered	EN
Vulnerable	VU
Near threatened	NT
Less concern	LC
Deficient data	DD
Not evaluated	NE

The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) includes in its appendices those species that have suffered a drastic change or decrease in their populations due to excessive hunting or trade in their derived products. CITES is an international agreement between governments which aims to ensure that international trade in specimens of wild animals and plants does not constitute a threat to their survival. The classification consists in:

- Appendix I. Includes all endangered species that are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulations so as not to endanger their survival and will be authorized only under exceptional circumstances.
- Appendix II.
 - a) Includes all species that, without being currently in danger of extinction, could reach that situation unless the trade in specimens of said species is subject to strict regulations to avoid use incompatible with their survival.
 - b) Those other species not affected by trade, which must also be subject to regulation in order to allow effective control of trade in the species referred to in paragraph a).

- Appendix III. It contains those species proposed by any of the party countries for special regulation because they are in a situation of danger or threatened within their jurisdiction. Cooperation between the States Parties is necessary to protect these species and achieve adequate control of their trade. Until now, Peru has not requested the CITES Secretariat to include any species of wildlife in the Appendix III.

The degrees of threat of the species found were updated with respect to Supreme Decree 004-2014-MINAGRI, if they are considered CITES species and, in the IUCN.

From the Composition of mammalian species, it was possible to demonstrate the high diversity of species in the Brazil nut concessions with 35 species of large and minor non-flying mammals found during the evaluation and Three (03) species of minor flying mammals (bats)

As a result, 31 species were found with some degree of threat, being the species with the highest degree of threat and importance for its conservation, Blue-headed Macaw (*Primolius couloni*), it is protected by both the Peruvian state and international legislation. White-bellied Parrot (*Pionites leucogaster*) was also registered as an important conservation species according to the IUCN, as it is vulnerable (VU). The main cause of the decline of their populations in Peru is illegal traffic, for the same reason that it is considered Appendix I in CITES; and for *Pionites leucogaster*, deforestation is also a factor that directly affects their population.

The study area presented a total of 29 species of herpetozoa, of these, 18 belong to the Amphibia class and 11 to the Reptilia class, registering Boa Constrictor (*Boa constrictor*) and Smooth-fronted Caiman (*Paleosuchus trigonatus*), categorized National in Supreme Decree No. 004–2014 MINAGRI and internationally in CITES found in Appendix II

Table 5.2. Mammalian species with some degree of threat

Order	Family	Specie	Local name	DS N° 004-2014-MINAGRI	IUCN	CITES
CINGULATA	Chlamyphoridae	<i>Prionomys maximus</i>	Yungunturo	VU	VU	I
PRIMATES	Cebidae	<i>Saguinus fuscicollis</i>	Mono fraile		LC	II
PRIMATES	Aotidae	<i>Aotus vociferans</i>	Musmuqui		LC	II
PRIMATES	Atelidae	<i>Alouatta seniculus</i>	Mono coto	EN	LC	II
CARNIVORE	Felidae	<i>Panthera onca</i>	Otorongo	NT	NT	I
CARNIVORE	Felidae	<i>Puma concolor</i>	Puma	NT	LC	I
CARNIVORE	Felidae	<i>Leopardus pardalis</i>	Tigrillo		LC	I
CARNIVORE	Mustelidae	<i>Pteronura brasiliensis</i>	Lobo de río	EN	EN	I
PERISSODACTYLA	Tapiridae	<i>Tapirus terrestris</i>	Sachavaca	NT	VU	II

Order	Family	Specie	Local name	DS N° 004-2014-MINAGRI	IUCN	CITES
ARTIODACTYLA	Tayassuidae	<i>Pecari tajacu</i>	Sajino		LC	II
ARTIODACTYLA	Tayassuidae	<i>Tayassu pecari</i>	Huangana	NT	VU	II

Table 5.3. Ornithofauna species with some degree of threat

Scientific name (Plengue 2019)	DS N° 004-2014-MINAGRI	IUCN	CITES
<i>Lophotrix cristata</i>		LC	II
<i>Megascops watsonii</i>		LC	II
<i>Pulsatrix perspicillata</i>		LC	II
<i>Glaucidium hardyi</i>		LC	II
<i>Glaucidium brasilianum</i>		LC	II
<i>Phaethornis hispidus</i>		LC	II
<i>Phaethornis malaris</i>		LC	II
<i>Phaethornis ruber</i>		LC	II
<i>Thalurania furcata</i>		LC	II
<i>Ramphastos tucanus</i>		LC	II
<i>Ramphastos vitellinus</i>		LC	II
<i>Pteroglossus beauharnaesii</i>	NT	LC	
<i>Falco rufigularis</i>		LC	II
<i>Ibycter americanus</i>		LC	II
<i>Micrastur semitorquatus</i>		LC	II
<i>Micrastur ruficollis</i>		LC	II
<i>Micrastur gilvicollis</i>		LC	II
<i>Amazona farinosa</i>		LC	II
<i>Amazona ochrocephala</i>		LC	II
<i>Ara chloropterus</i>	NT	LC	II
<i>Ara macao</i>	NT	LC	I
<i>Ara severus</i>		LC	II
<i>Aratinga weddellii</i>		LC	II
<i>Psittacara leucophthalmus</i>		LC	II
<i>Brotogeris cyanoptera</i>		LC	II
<i>Forpus modestus</i>		LC	II
<i>Pionites leucogaster</i>		VU	II
<i>Pionus menstruus</i>		LC	II
<i>Primolius couloni</i>	VU	VU	I
<i>Pyrrhura rupicola</i>		NT	II

Scientific name (Plengue 2019)	DS N° 004-2014-MINAGRI	IUCN	CITES
<i>Touit huetii</i>		LC	II

Table 5.4. Herpetofauna species with some degree of threat

N°	Species	Conservation status		
		D.S.004 -2014	CITES	IUCN
1	<i>Boa constrictor</i>	EN	II	LC
2	<i>Paleosuchus trigonatus</i>	NT	II	LC

Flora

Based on the baseline sampling of March 2021 were identified 82 species during the evaluation, of the 82 species registered during the evaluation, only five species are within the list of species protected by Peru (D.S. 043-2006-AG), each one in different categories, species such as *Clarisia racemosa* Ruiz & Pav. (Species in Near Threatened (NT)) timber species, *Copaifera paupera* (Herzog) Dwyer Vulnerable species (VU)), timber and medicinal species and *Manilkara bidentata* (A. DC.) A. Chev (Vulnerable species (VU)) the fruit it is food for fauna and timber.

Table 5.5. Flora species with some degree of threat

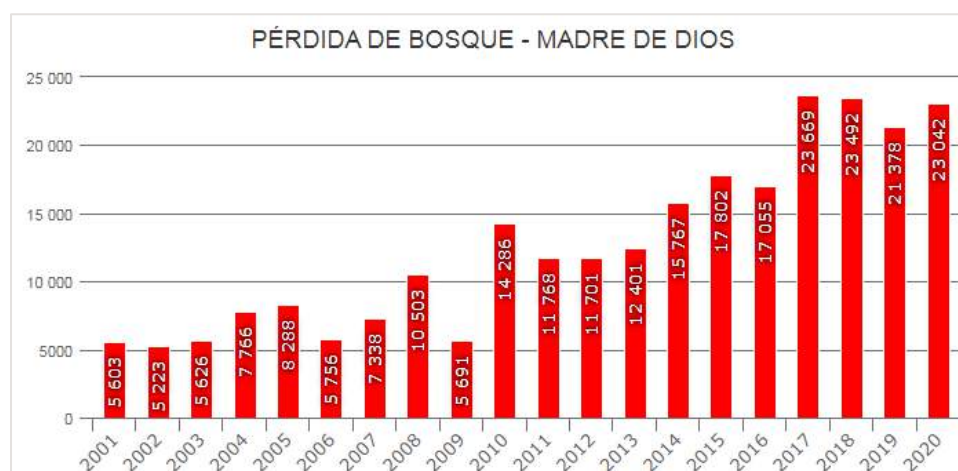
N°	Scientific name	D.S. 043-2006-AG	UICN**	CITES***
1	<i>Bertholletia excelsa</i> Bonpl.	-	VU	-
2	<i>Clarisia racemosa</i> Ruiz & Pav.	NT	LC	-
3	<i>Copaifera paupera</i> (Herzog) Dwyer	VU	LC	-
4	<i>Minquartia guianensis</i> Aubl.	-	NT	-
5	<i>Manilkara bidentata</i>	VU	LC	-

Threats to Biodiversity

In the region, the main cause of the deterioration of biodiversity is the loss of forest caused by the expansion of the network of roads, the expansion of mining, agriculture, cattle ranching and population growth. The loss of forests generates the fragmentation of ecosystems, affecting their structure and functioning, which may lead to the loss of habitats and cause the extinction of species (Aguila & Martinez, 2000); as well as the loss of the ecosystem services they provide.

According to the MINAM GEOBOSQUES portal, the surface of Madre de Dios is covered by 7.9 million hectares of forest, that is, 93% of the region's surface, which has 8.5 million hectares. The accumulated deforestation until the year 2000 was 2.2% of the surface of Madre de Dios, with 184 065 hectares. Between the years 2001 to 2020, there was a cumulative deforestation of 254,153 hectares, equivalent to 2.9% of the total area of the region.

Figure 5.1. Forest loss in Madre de Dios



This deterioration of the forests causes alterations in the trophic chain and in the natural interactions between fauna, flora, and the physical environment, causing a geographical redistribution due to the limitation of the reproduction spaces of many species that need vegetation cover to build their nests, as well as shelter for reptiles and mammals. Another major threat is logging in the area. According to OSINFOR (2018), during the 2012-2016 period, 435 supervisions were carried out for Brazil nut concessions, of which 311 supervisions (71.5%) were for supplementary annual management plans for timber extraction; modality through which some holders access, in a complementary way, the use of Brazil nuts.

5.1.2 High Conservation Values (B1.2)

The applied methodology was detection of High Conservation Values (HCV), or 'screening', in English. HCV detection is a desk exercise that uses the six definitions of species diversity, ecosystem landscape or mosaic level, ecosystems and habitats, system services, community need, and HCV cultural values to characterize the environmental and social aspects of HCV. a landscape or jurisdiction. Detection considers the probability of the presence of HCV, identifies the threats to these HCV, and indicates which values need to be addressed most urgently through discussions and follow-up actions. The biodiversity-related High Conservation Values that was identified for the project area are presented below.

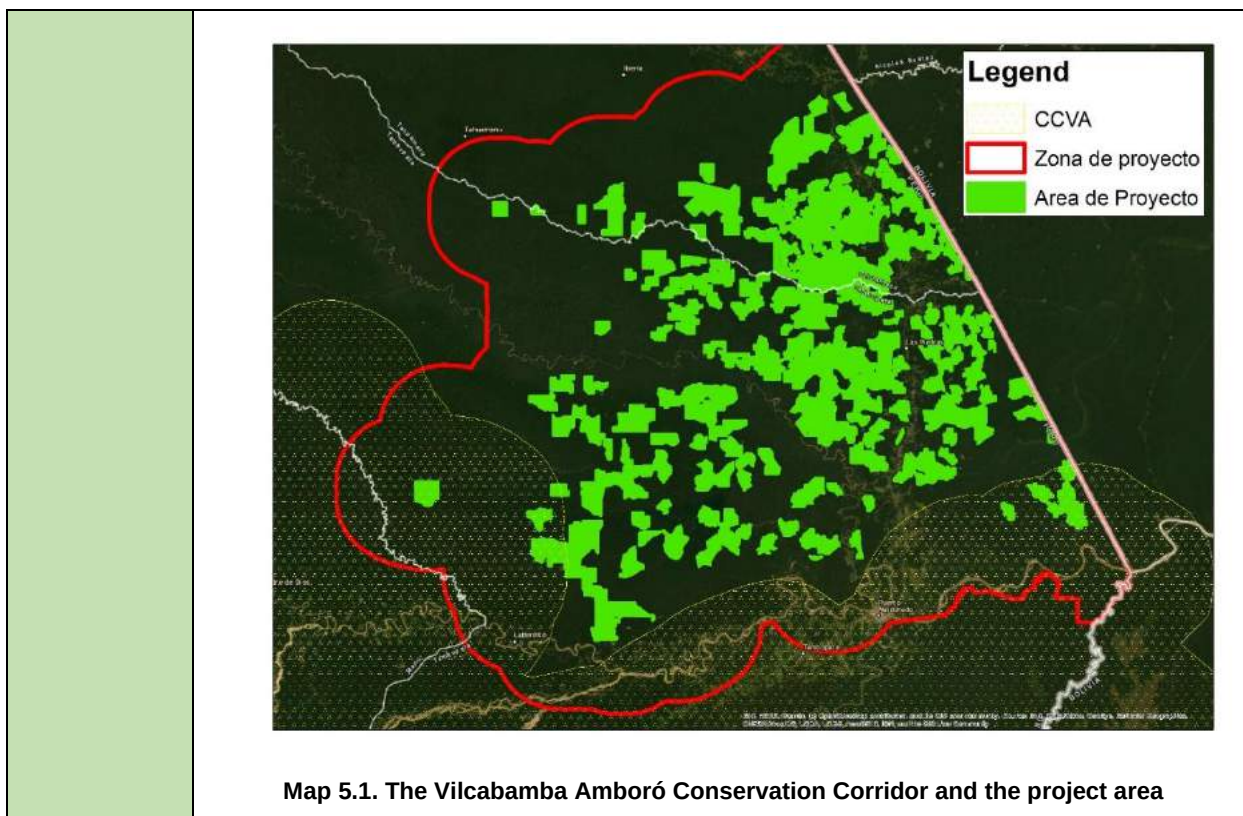
High Conservation Value	Brazil nut forest ecosystem. HCV Type 1 (Species Diversity): Threatened species (<i>Bertholletia excelsa</i>)
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Qualifying Attribute	Brazil nut forests play an important role that contributes to the protection and ecological connectivity and the subsistence of thousands of species of flora and fauna. These forests are located in the Tropical Andes hotspot and contain approximately 15% and 50% of the world's vascular plant biodiversity and endemism, respectively. It contains not only a great diversity, but also a great endemism of vertebrates: 73% amphibians, 46% reptiles, 41% birds and 16% of the endemic mammals of the world. The protected areas of the Tropical Andes conserve some of the most important remains of this hotspot, the most important areas being represented by: 1) Manu, the largest tropical rainforest biosphere reserve on the planet, and 2) Tambopata-Madidi protected area complex, located on the border between Peru and Bolivia in the richest part of this hotspot, which has the greatest biodiversity on earth and whose creation constitutes an important achievement for the conservation of biodiversity (Mittermeier et al., 2005; Myers, 1988; Myers et al., 2000)⁶². The protected areas in this forest ecosystem form a biodiversity corridor that maintains a remarkable biological and cultural diversity. These complexes include public and private land, which are either on untouched land or on land severely devastated by anthropic activities.
Focal Area	The area is located in the south of the project zone, the forests between the Madre de Dios, Los Amigos and Las Piedras rivers. The project area has Brazil nut forest located in the Vilcabamba Amboró Conservation corridor - CCVA is a binational area, since it extends from the Vilcabamba mountain range in Peru to the Amboró National Park in Bolivia, making up a total of 30 million hectares which include 19 protected areas. This contributes to the protection and ecological connectivity of the world's best-preserved mountainous forests and tropical plains and to the subsistence of thousands of species of flora and fauna. The protected areas of this forest ecosystem form a biodiversity corridor that maintains a remarkable biological and cultural diversity. These complexes include public and private land, which are either on untouched land or on land severely devastated by anthropic activities. The CCVA plays a fundamental role in the regulation of ecosystems at the regional level since it includes areas of high-density rainfall, headwaters of the Amazon basin and other basins that regulate temporary floods. In addition, there are indigenous villages in voluntary isolation. According to the project, it is required to conserve the current area through monitoring and surveillance control activities, sustainability to the use of Brazil nut and recovery of soils degraded by agriculture and livestock.

⁶² Mittermeier, R., Robles Gil, P., Hoffman, M., Pilgrim, J., Brooks, T., Goettsch Mittermeier, C., Lamoreux, J., & da Fonseca, G. (2005). Hotspots Revisited Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. Conservation International.

Myers, N. (1988). Threatened biotas: "Hot spots" in tropical forests. *Environmentalist* 1988 8:3, 8(3), 187–208. <https://doi.org/10.1007/BF02240252>

Myers, N., Mittermeyer, R. A., Mittermeyer, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature* 2000 403:6772, 403(6772), 853–858. <https://doi.org/10.1038/35002501>



5.1.3 Without-project Scenario: Biodiversity (B1.3)

Roads in the Amazon are unstoppable vectors of the disorderly occupation of the territory, of the invasion of protected areas and indigenous lands, of deforestation for agricultural purposes where this is not legal, of the expansion of mining and timber extraction illegal and, obviously, facilitators of cocaine production and drug trafficking (Dourojeanni, 2015).

According to the deforestation model, by 2040 a projection of 100,297 hectares would be lost, which represents 34.9% of the total Project area. This expected loss caused by uncontrolled traditional activities (agriculture, cattle ranching, illegal mining, etc.) would affect the biological processes of flora and fauna species, causing the degradation of ecosystems.

The permanent loss and fragmentation of habitat would cause the isolation of flora and fauna species, cutting off connectivity. This would increase inbreeding (reducing genetic diversity), infertile or unviable population (reducing total population), the number of threatened species and their degree of threat (from uncontrolled hunting or exploitation); and feeding and nesting sites would be damaged. All these impacts would be negative for the biodiversity of the project area.

The loss of Brazil nut forests and lower Brazil nut production would negatively affect the local economy, since it is a source of employment for more than 35% of the project population (social baseline, 2021). This would increase the risk of Brazil nut pickers switching to other economic activities such as illegal logging, illegal mining, etc. The loss of these forests would damage river basins, water and climate regulation, biological control, climate change, etc.

The paving of the Interoceanic Highway between Peru and Brazil. This path crosses through connecting forests, and if its implementation is associated with the deforestation strips that usually accompany this type of infrastructure in the tropics, it would be threatening to annul the existing connectivity of the forests with the highest biodiversity value on the planet (Killeen, 2007). Connectivity is a condition referred to the link or nexus that facilitates the movement of organisms between habitat patches present in the landscape. A highly connected landscape is one in which individuals of a given species can move freely between the habitats they require to feed and protect themselves. It is a property of the territory for a species or group of similar species from the point of view of its ecological requirements and dispersive capacity and it is a critical condition that guarantees the viability of the populations to be conserved.

Three types of roads were found in the project area: (1) Penetration roads. - that lead from the interoceanic highway to the evaluated concessions. (2) Roads for Brazil nut harvesting. - made up of roads and paths and that join the Brazil nut trees, they are used by the Brazil nut growers during the Brazil nut harvest. (3). Timber forest extraction roads. - are used for the extraction of wood from Brazil nut groves and surrounding areas. It is necessary to assess in more detail the impact of each of these roads on the biodiversity of Brazil nut forests.

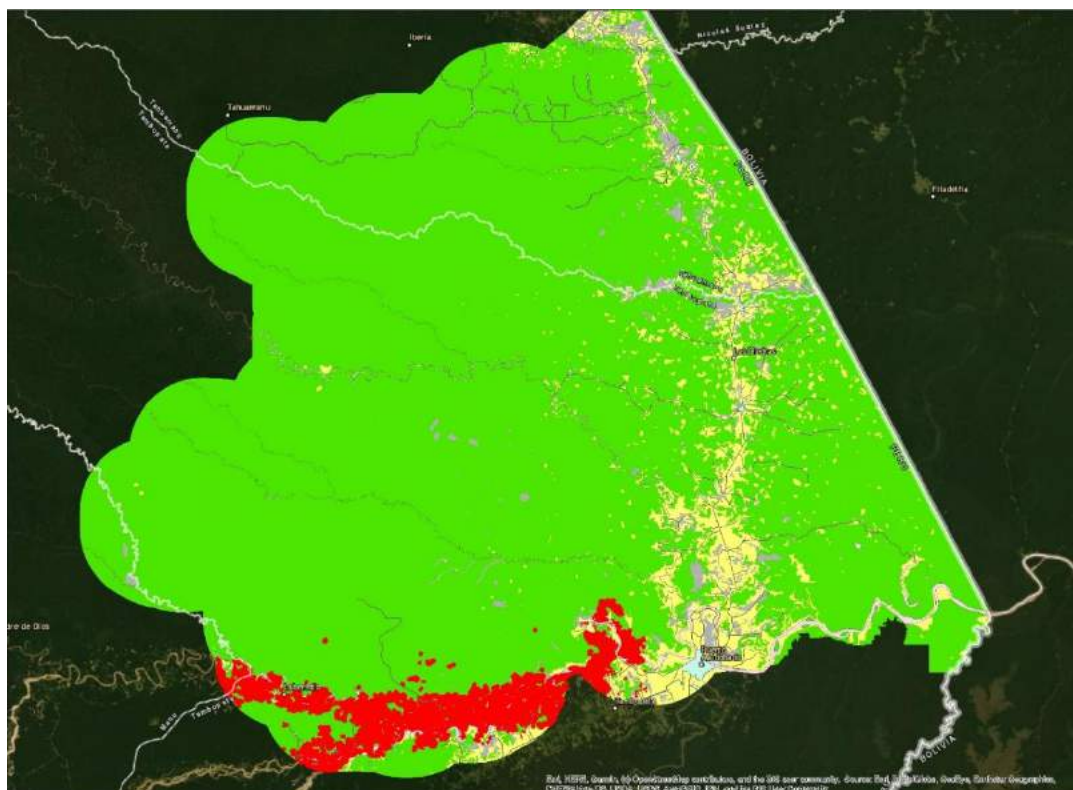
The expansion of the agricultural frontier is caused by the continuous and accelerated pressure on the lands on both sides of the South Interoceanic Highway (IOS) mainly by Andean migrants. They replicate traditional slash-and-burn practices, deforesting areas covered with forest, to carry out clean agriculture or intensive grazing. It is estimated that the change in land use for agriculture in the period 2000 – 2016 reached an average of 2955 ha/year. Likewise, the implementation of pastures for livestock registers the highest annual growth rate, reaching 13,679 h/year. Both results were obtained using Geobosques Land change visualizer (MINAM 2022)

Informal mining registered an exponential growth rate between the years 2013 – 2018, being the main deforestation driver in the Madre de Dios region (Puzzi Nicolau et al., 2019) ⁶³. This increase is stimulated by the international price of gold and the lack of control and tax inspection mechanisms, which allows all mining activity to be informal, becoming a serious environmental and social threat in continuous expansion.

Mining in Madre de Dios is carried out with heavy machinery and dredging in the rivers, which produces negative impacts such as the alteration of the quality of surface waters due to land removal; the dumping of chemicals, oils, lubricants and fuels that puts aquatic fauna at risk; direct destruction of flora and fauna, alteration of biodiversity and alteration of habitat due to the movement of vehicles and heavy machinery.

⁶³ Puzzi Nicolau, A. Herndon, K. Flores-Anderson, A. Griffin, R. 2019. A spatial pattern analysis of forest loss in the Madre de Dios region, Peru. Environmental Research Letters 14 (12). DOI:10.1088/1748-9326/ab57c3

Map 5.2. Scenario of main activities in the project area

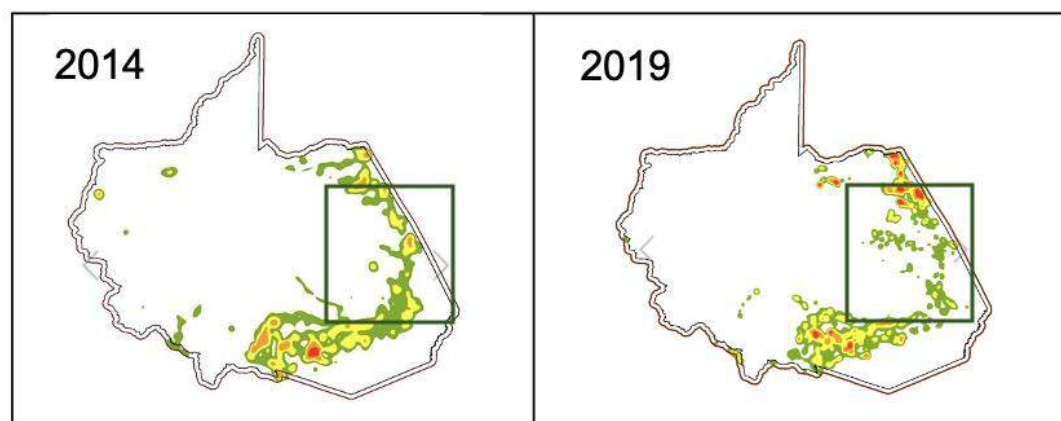


In the figure, we can see the spatial behavior of the main activities that promote deforestation, in red the mining located south of the project area and in yellow the agricultural and livestock frontier. The first has fluvial concentration, settling in the main rivers and the second, the expansion of the agricultural frontier is caused by the continuous and accelerated pressure on the lands on both sides of the South Inter-oceanic Highway (IOS) mainly by Andean migrants. They replicate traditional slash-and-burn practices, deforesting areas covered with forest, to carry out clean agriculture or intensive grazing.

According to the MINAM GEOBOSQUES portal, the concentration of forest loss in Madre de Dios has increased in the project area during the 2014-2019 period. As can be seen in the following figure, the project area has presented an increase in forest loss in the northern area.

Green areas show a medium concentration, yellow a high concentration, orange a very high concentration, and red an extremely high concentration of forest loss.

Map 5.3. Concentration of forest loss in Madre de Dios



Source: GEOBOSQUES – MINAM.

5.2 Net Positive Biodiversity Impacts

5.2.1 Expected Biodiversity Changes (B2.1)

Biodiversity Element	Brazil nut forests
Estimated Change	Maintain the ecological integrity of Brazil nut forests
Justification of Change	In the project scenario, the ecological integrity within the Brazil nut concessions will be guaranteed and maintained, which in turn will allow the protection of biodiversity within the Project Area. This means that the project will ensure that the projected 100,297 ha of forest to be deforested (in baseline) will maintain their ecological functions under sustainable management. Additionally, the project will seek to avoid an increase in deforestation activities by committing to reduce the trend of the deforestation rate, thus maintaining biodiversity levels in the entire project area (329,564 ha). Project activities such as monitoring and surveillance and implementation of the alert system will prevent and control negative impacts on Brazil nut forests, which are the most diverse forests in the Madre de Dios region and present a great diversity of plant communities.

Biodiversity Element	Fauna
Estimated Change	Positive
Justification of Change	As in any trophic chain, if we have a good plant cover, it is expected to have an adequate habitat for fauna species, since mangrove forests are the habitat of a great variety of local and migratory birds, mammals, amphibians and reptiles from there they obtain food and it is a place of shelter and nesting Project activities such as monitoring and surveillance and implementation of the alert system will prevent and control negative impacts on Brazil nut forests, allowing the habitat and food of the main species to be maintained.

Biodiversity Element	Water bodies
Estimated Change	Positive
Justification of Change	By conserving the Brazil nut forests, the bodies of water are protected and with it the resources for the development of activities such as fishing, transportation and direct consumption

5.2.2 Mitigation Measures (B2.3)

The project has no negative impacts on biodiversity. The activities described previously in the section 2.1.2, monitoring and surveillance that will allow the reduction of deforestation and forest degradation will be implemented under the premise of a sustainable production of Brazil nut forests.

Control of the illegal trade in game and flora

The concessionaires of the Project Area were granted concessions by the Ministry of Agriculture for Brazil nuts to practice the management and use of Brazil nuts and the use of low intensity forest wood up to 5 m³ / ha / year.

Training and dissemination of HCV to the communities in the project area and training in environmental crimes, project for the recognition of Fauna in danger of extinction to the project worker and the local resident (all the communities in the Project Area identified). These two activities will be developed annually in training workshops and through the dissemination of brochures where endangered species of fauna are visualized to identify them by the project workers, especially those who enter the forest and the local inhabitant in general (communities of the area).

Forest management

- o Improvement and redesign of Forest Management Plans and Intermediate Forest Management Plans for the Use of Forest Products Other than Wood, after a diagnosis of concessions. The actions of the first stage or primary processing of the Brazil nut that is carried out in the forest will also be supervised and the actions of this first stage on the site are verified and that they follow the required quality standards. They must also observe the compliance with the authorized volumes and the implementation of the Reduced Impact Exploitation, in the case of wood extraction.
- o Establishment and development of activities in each concession or concession groups.
- o Determination and implementation of reforestation areas.
- o Determination and implementation of permanent plots and tree monitoring and measurement of established species.
- o Determination for the development of commercial species.
- o The quality, number and location of the roads that the concessionaires have implemented must be established, considering that they are concessions for the use of Brazil nuts.
- o Use of timber forest species (maximum 5m³ / ha / year)

Management of the Brazil nut, efficient and standardized actions will be carried out before processing:

- o Conditioning and construction of camps and storage places. The activities begin with the conditioning of small areas generally near rivers or streams where the camps are located

for the camp staff and the sheds or "Payoles" to store the Brazil nut. Mitigation and / or prevention measures are:

- Construction of camps and storage areas preferably in pre-existing clearings or by removing forest cover from areas of less than 50 m² approximately.
 - Build silos for hygienic services and organic waste. At the end of the stay in the camp, the silos will be closed and closed.
 - Avoid opening unnecessary gaps.
 - Prohibit the hunting, capture and possession of wild fauna.
 - Reduce the generation of noise, especially in areas near clay licks, drinking fountains, nesting places, etc.
- o Inventories or censuses. Brigades of 6 people usually participate in this operation, led by an expert in the area, and he is in charge of the location of the Brazil nut trees, he is known by the name of "Matero". This group locates between 20 and 40 trees per day. Mitigation and / or prevention measures:
- Avoid the excessive use of plastics and other inorganic materials.
 - The width of trails or areas for marking vertices should occupy the smallest possible area.
 - Prohibit the hunting, capture and possession of wild fauna.
 - Reduce the generation of noise, especially in areas near clay licks, drinking fountains, nesting places, etc.
- o Opening and maintenance of trails, paths, etc. The "Trocheros" are generally very skilled people in the use of the machete, he is responsible for opening the "entrances" (paths or paths) that connect the bare trees that vary in length according to the population density of the Brazil nuts. Mitigation and / or prevention measures are:
- Avoid opening the road network through low areas or areas at risk of flooding.
 - Use the existing roads and avoid the opening of paths or unnecessary roads in the UMF.
 - Do not use heavy machinery.
 - Cleaning of channels, sewers and bridges.
 - Discharge of bodies of water that are obstructed
 - Prohibit the hunting, capture and possession of wild fauna.
 - Reduce the generation of noise, especially in areas near clay licks, drinking fountains, nesting places, etc.
- o Extraction or Collection. The falling fruit is collected by hand and piled up in piles according to their number and dispersal distance. In this activity a basket is used, which once filled is poured into the pile. The "pod" should not remain in the soil for more than three months to avoid rotting. Mitigation and / or prevention measures:
- o The fruits are broken. This operation is carried out in the same pile, using a machete for the fractionation, in order to avoid taking them to the camp. A worker can break 600 to 800 coconuts per day (1.5 to 2 jute bags). Once extracted, the seed is placed in jute bags for transport to the camp. In payoles, a drying and aeration process is carried out to prevent the growth of fungi responsible for contamination; At this point, the Brazil nuts should reach a moisture content between 18% and 20%.
- Avoid the excessive use of plastics and other inorganic materials.

- Clean and disinfect the cutting tools before starting the work day.
 - Avoid the use of cutting tools on sick individuals.
 - Avoid excessive use of the resource (respect the established percentages)
 - Prohibit the hunting, capture and possession of wild fauna.
 - Reduce the generation of noise, especially in areas near clay licks, drinking fountains, nesting places, etc.
- o Primary Processing Plants. Brazil nuts are transferred from the camp to the primary processing plant using tractor-drawn carts for transportation. Eventually, in the processing plant, the nuts can continue to be aerated to dry to prevent fungal growth.

5.2.3 Net Positive Biodiversity Impacts (B2.2, GL1.4)

The project will not adversely affect any conservation value; on the contrary, the project aims at the preservation of the ecosystem and the sustainable management of the forest with respect to the traditional activities of the partners, Brazil nut and wood.

Project activities such as monitoring and surveillance and implementation of the alert system will prevent and control negative impacts on Brazil nut forests, maintaining the conditions for the conservation of habitats for birds, large mammals and amphibians and reptiles. The main positive impacts on biodiversity are identified below:

- o Maintain the ecological integrity of Brazil nut forests
- o Protection of the habitats of mammalian species of the families Felidae and Tapiridae.
- o Protection of bird habitats with some degree of threat from Psittacidae families.
- o Improvement of water quality.

5.2.4 High Conservation Values Protected (B2.4)

The project will not adversely affect any conservation value; on the contrary, the project aims at the ecological integrity of the ecosystem and the sustainable management of the forest with respect to the traditional activities of the partners, Brazil nut and wood.

High Conservation Value	Brazil nut forest ecosystem
Affected by the project?	Brazil nut extraction is carried out in undisturbed natural forests for a period of up to 4 months a year, as it is considered a low-impact activity that promotes forest conservation, since the activity is profitable only in non-disturbed forests. Attempts to establish plantations have been unsuccessful. For this reason, it is essential to safeguard productive Brazil nut forests, strengthening forest management techniques and providing resources to increase the value of Brazil nut products and by-products, as well as holding workshops on wildlife hunting, solid waste management, among others. Likewise, the Brazil nut activity is regulated by the State and requires a General Management Plan for the Brazil nut harvest that must be approved by the Regional Directorate of Silviculture and Wildlife (DRFFS) and the annual operating plans must be authorized annually.
Specific project activities	Implementation of a holistic monitoring, control and surveillance system (MCS) (satellite or space-based, technical, legal) to address deforestation threats.

	Use of remote sensing techniques that will not represent an intrusion into the HCV given the nature (satellite observation) of the surveillance. No negative impacts. Surveillance and monitoring checkpoints will not disrupt the habitat. Its establishment will reduce the access of illegal trespassers into the HCV. No negative impacts. Provide permanent training to project stakeholders in sustainable forestry management (concessions management; concessions monitoring and control; sustainable productive activities). Workshops for strengthening capacities in sustainable forestry management, will no represent a physical access into the HCV. No negative impacts. Support the development of annual management plans and supervising the correct course of operations. Supervision and documentary work. No negative impacts. Campaigns on conservation of forests and environmental goods and services. Communication strategies. No negative impacts. Establish a forestry nursery for reforestation of Brazil nut and agroforestry purposes. Nursery will be implemented near the forest area in current non-forest zones; no vegetation removal will be done to establish the infrastructure. No negative impacts. Strengthen FEPROCAMD's organizational and executive capacity. Administrative support. No negative impacts. Provide services for the correct ordering and bordering of concessions (concession demarcation) according to concession contract with Peruvian state. Legal and territorial ordering support. No negative impacts. Support concessionaires in improving their production and commercial capacity with respect to the Brazil nut activity. Productive and commercial improvement support. No negative impacts. Implement a scientific program for permanently evaluating and monitoring flora and fauna within the Project Zone. Field expeditions will undergo a minimal impact protocol, following the strategic framework of the BAM Science Program. No negative impacts. Control of illegal hunting and flora trade in the project zone with the support of authorities and other competent organizations. Cooperation agreements with local or national authorities and international organizations. No negative impacts. Training in biodiversity awareness and conservation will be held annually among project members and other stakeholders. Awareness campaigns on biodiversity importance. No negative impacts.
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5.2.5 Species Used (B2.5)

It will be enriched with native species of high economic value; In these the species to be planted are detailed:

Brazil nut (*Bertholletia excelsa*). It lives in the high forests of the Peruvian, Bolivian and Brazilian Amazon floodplain. It is a large tree, reaching 60 m in height and a diameter greater than 2 m; cylindrical shaft, smooth and without branches up to the crown; dark and split bark; deciduous leaves, bright green on the underside and pale green on the underside; Incomplete, spherical or slightly flattened capsular fruit of the pyx type, with a hard and woody shell, with a diameter of 10-25 cm and with an average of 18 seeds. Fruit production occurs only during the eighth year, requiring an average of 15 months to ripen the fruit, the harvest season begins in mid-December and lasts until March. Seed dispersal is produced mainly by Agouti (*Dasyprocta variegata*, Rodentia), which gnaws and leaves the seed exposed. In addition, the Agouti buries the seeds of the Brazil nut, allowing environmental factors to disintegrate the hard shell of the Brazil nut to get food with the least amount of energy, but sometimes the Agouti forgets where it stored the seeds, allowing in many cases its germination.

Shihuahuaco (*Dipteryx micrantha*). Typical species of the Amazon basin, it is found in Brazil, Venezuela, Guyana, Peru and Colombia. Large tree, reaching heights of 50 m diameters greater than 1 m; cylindrical trunk, without branches to the top of the tree; compound leaves; flowers with terminal panicle inflorescence, drupe-shaped pulpy fruit. Fruiting occurs at 4 years and dispersal is carried out by smaller rodents. It is considered a medicinal plant widely used by indigenous peoples; the seed oil is used to combat earaches and inflammations, the seed dipped in alcohol is used for snake bites, cuts, bruises, coughs, rheumatism, etc. and the cortex for feverish patients.

Tornillo (*Cedrelinga cateniformis*). Species with wide distribution found in tropical, subtropical and very subtropical humid forests and in tropical dry forests; It is also considered a flexible species in relation to height, since it can be found from 120 meters above sea level to 800 meters above sea level. Dominant stratum tree, between 25 to 40 m in height and diameters in the range of 60 to 150 cm; tubular roots, straight trunk with fissured bark; small head terminal inflorescence; hermaphrodite flowers; flowering occurs mostly at the end of the dry season, between November-December, fruiting at the beginning of the rainy season, between December-February. Fruiting is annual in most of the trees while some have flowering and fruiting with an interval of two to three years and irregularly. The fruits are produced from December to March in Peru. It is a rustic species due to its high resistance to physical damage, to the attacks of pests and diseases due to its competition for light because in its initial stage it is a semi-shade-loving plant and in maturation it becomes a demanding species of light.

5.2.6 Invasive Species (B2.5)

Invasive species are defined as non-native species that threaten ecosystems, habitats or species in the Project Zone as identified in the Global Invasive Species Database (see: <http://www.iucngisd.org/gisd/>), from scientific literature and from local knowledge. The three species to be used (*Bertholletia excelsa*, *Dipteryx micrantha*, and *Cedrelinga cateniformis*) are native species, these are not included in the aforementioned database nor have an invasive behavior.

5.2.7 Impacts of Non-native Species (B2.6)

Only native species will be used in forest enrichment such as the Shihuahuaco, the Tornillo and the Brazil nut, so there will be no negative effect on their use.

5.2.8 GMO Exclusion (B2.7)

The project will not use any Genetically Modified Organism within the forest enrichment; the seeds used will come from seed trees in the area. Also, this enrichment will not be considered in GHG reductions.

5.2.9 Inputs Justification (B2.8)

Not applicable.

5.2.10 Waste Products (B2.9)

The use of Brazil nut generates low negative impacts, inventory activities, opening of roads, conditioning and construction of camps and places of collection and extraction or collection of Brazil nut generate contamination by solid waste for which the following measures are recommended for the management of solid waste:

- o Inorganic waste (batteries, plastics, cans, etc.) must be deposited in public or private collection centers for treatment.
- o Ban the burning of inorganic waste.
- o Build silos for sanitation services and organic waste. At the end of the stay in the camp, the silos will be closed and closed.
- o Collect inorganic waste (batteries, plastics, etc.) to deposit them in collection centers for treatment.
- o Do not dump organic or inorganic waste into water courses.
- o Avoid excessive use of plastics and other inorganic materials.

5.3 Offsite Biodiversity Impacts

5.3.1 Negative Offsite Biodiversity Impacts (B3.1) and Mitigation Measures (B3.2)

Negative impacts on biodiversity outside the project area are not expected.

5.3.2 Net Offsite Biodiversity Benefits (B3.3)

Table 5.6. Net Offsite Biodiversity Benefits

Benefits	In project zone	Outside project zone
Wildlife refuge areas	Brazil nut management activities will not generate negative impacts outside the site, however, Brazil nut collectors will be trained to implement better measures for the conservation of biodiversity, as well as training in the use of wildlife to Brazil nut collectors. See file: Project activities / meetings and workshops / monitoring control and surveillance system / Training in MRV, https://www.bosques-amazonicos.com/blog/en/redd-brazil-	The control and monitoring activities in the project area will cause the displacement of deforestation and degradation agents, conserving large Brazil nut forests and with them the ecological connectivity that allows the displacement of umbrella species and indicators of good conservation status. Given that no negative effects are expected in the area outside the project area, and that the formation of wildlife refuges allows the maintenance of biotic diversity, coupled with

Benefits	In project zone	Outside project zone
	nut-concessions-partners-participate-in-scientific-expedition/	a scientific assessment program that will periodically evaluate the state of conservation, the project scenario is much more satisfactory than the baseline, where no such information would be available, so the net impact is positive.
Green connectivity	Monitoring and surveillance will allow the conservation of Brazil nut forests, which are ecosystems that are home to a large species of wild fauna, considered as an umbrella because they require large areas of territory for their movements. See file: Project activities.	The protection and conservation of the Brazil nut forests in the project area allows for the maintenance of large areas of standing forests harboring endangered species of terrestrial Tapir (<i>Tapirus terrestris</i>) and umbrellas such as Jaguar (<i>Panthera onca</i>) and Puma (<i>Puma concolor</i>). The maintenance of biological corridors, by avoiding the harvesting or improper management of Brazil nut forests, results in a net positive impact, given that the baseline scenario encourages further deforestation in the project area, so these biological corridors would be jeopardized as they depend on the integrity of the ecosystem. Furthermore, the maintenance of Brazil nut forests results in benefits such as the maintenance of the region's water balance, refuge for pollinators and resilience to climate change.

5.4 Biodiversity Impact Monitoring

5.4.1 Biodiversity Monitoring Plan (B4.1, B4.2, GL1.4, GL3.4)

The monitoring plan is focused on obtaining data over a period of time, in order to detect changes in population structures and to be able to determine whether an area is being impacted or not. The monitoring must be led by specialists or trained to avoid a bias in the data and homogenize the effort in sampling and methods, to obtain robust data for the analysis to be carried out, which is why we propose a standardized methodology.

The objective of biodiversity monitoring will be to analyze and interpret changes in biodiversity due to the strategies and activities proposed in the project. In this regard, the biodiversity variables were determined considering the following criteria:

- a) Component of Biodiversity Objectives and Goals, Maintain and Conserve Biodiversity in the Project Area; Safeguard the High Conservation Values of the project.
- b) Key elements that reflect the state of biodiversity, threatened species, fragile ecosystems, important sites for breeding, feeding or wildlife refuge, resources traditionally used by the local population (Brazil nut, hevea, aguaje, etc.).
- c) Criteria for the measurement of indicators, Abundant, easily identifiable species, Indicator species (easily react to changes in the environment), Accessibility for data collection and measurement equipment.
- d) Identification of groups of species that, due to their ecological characteristics and natural history, are easily identifiable in the ecosystem, both in the dry and rainy season, and their presence or absence is an indicator that helps to conserve diverse habitats and maintain a healthy ecosystem.

Biodiversity monitoring will focus on obtaining information at a given moment at the landscape level, such as the analysis of the state of the forest and wildlife, through the evaluation of the dynamics of the populations of forest species present (flora inventories); and in fauna in its components Herpetofauna, Ornithofauna and Mastozoofauna in different Brazil nut concessions. The methodology used for data collection was proposed by the Rapid Assessment Program (RAP) of Conservation International. The results obtained will be contrasted with the reference data for the analysis, which will focus on the diversity patterns as follows:

- a) State of the forest, with the registration of variables (floristic composition, ecological weight, horizontal structure, number of individuals, natural regeneration) that allow to know the structural characteristics of the taxa that integrate it and the dynamics of the forest, the identification of the species present in its four population strata of the individuals registered (sapland, latizal, fustal, and arboreal) in order to differentiate the stage of development of the species present according to reference measures of diameter and height.
- b) Presence / absence of threatened species. According to the conservation status of the IUCN, CITES and at the national level by the List of Endangered Species mentioned in the Supreme Decree No. 004-2014 for Wildlife and the S.D. 043-2006-AG for Flora.
- c) Species accumulation curves with parametric and non-parametric estimators as one of the base calculations for taxa analysis. Since the number of species increases with sample size, this variable to calculate is very important in biodiversity studies and will be calculated through the EstimateS / Past program, using the corresponding estimators for sampling effectiveness comparisons taking into account species incidence and not abundance (a variable that is subject to many factors in sampling).

Table 5.7. Biodiversity Monitoring Plan

Biodiversity Component	Sampling methods	Method description	Biodiversity variables (Monitoring zones)	Indicators	Monitoring frequency
Status Brazil nut forests	Flora inventory	Gentry's method of plots consists of surveying, in an area of 0.1 ha, all the trees whose stem has a diameter at breast height (DBH) greater than or equal to 0.10 m.	Brazil nut forest structure Floristic composition	Number of species recorded. N° of individuals per	Biannual flora inventories

Biodiversity Component	Sampling methods	Method description	Biodiversity variables (Monitoring zones)	Indicators	Monitoring frequency
		For this, 10 transects of 50 m were made. x 2 m. for each zone Permanent Sampling Plots (PPM) of 20x20 m, for the recording and evaluation of natural regeneration.	(Brazil nut forest concessions) Brazil nut forests	diameter class Density: Basal area / ha; No. of individuals / ha. % number of individuals / crown light class Mixing quotient: N° species / N° individuals IVI % (Importance Value Index) Species conservation status	
Large threatened mammals	Transects	Line transects records with indirect records (including fresh footprints, feces, hair, burrows, excavation, and partially consumed fruit / seeds) and complementary methods such as camera traps, fog nets, and traps	Species richness (Brazil nut forest concessions)	- Species specific composition -No. of individuals recorded by species - Presence / absence - Species accumulation curve estimators	Biannual evaluation

Biodiversity Component	Sampling methods	Method description	Biodiversity variables (Monitoring zones)	Indicators	Monitoring frequency
				- Species conservation status	
Threatened birds	Point-count	The observer remains in a fixed point for 10 minutes where he recorded all the birds seen and heard inside and outside the 30-meter radius. Points were systematically set, with a spacing of 200 meters between points	Species richness (Brazil nut forest concessions)	- Species specific composition - Presence/absence - Species accumulation curve estimators - Species conservation status	Biannual Evaluation
Anfibia / reptiles	Evaluation of herpetofauna through fixed band transects	Line transects per sampling area of 50 m long by 4 m wide, separated from each other by approximately 100 m, each one was evaluated for an average time of 30 minutes in order to standardize the sampling effort, as a complementary method, records will be used timely.	Species richness (Brazil nut forest concessions and inland water bodies)	- Species specific composition - Presence / absence - Species Accumulation Curve Estimators	Biannual Evaluation

5.4.2 Biodiversity Monitoring Plan Dissemination (B4.3)

The dissemination will be carried out through an annual informative workshop on the results of the biological monitoring plan in the populated center with the greatest presence of members. The workshops would be aimed at making known the importance of the areas of high conservation value under a didactic method accompanied by dissemination materials. Another dissemination tool will be the BAM website, where photographic panels of the main species of fauna and flora to be conserved will be added to maintain the integrity of the Brazil nut forests.

5.5 Optional Criterion: Exceptional Biodiversity Benefits

5.5.1 High Biodiversity Conservation Priority Status (GL3.1)

According to the CCB standard, it must be demonstrated that, anywhere in the project area, there is the presence of at least a single individual of a species from the Red List of the International Union for Conservation of Nature (IUCN) that is critically endangered (CR) or endangered (EN). In addition, the national classification of degree of vulnerability has been considered, under the Resolution DS N° 004-2014-MINAGRI and D.S. 043-2006-AG of the Ministry of Agriculture.

In the evaluation of mammals, under national legislation, it was accounted the presence of 02 endangered species (EN) Gian River Otter (*Pteronura brasiliensis*) and Red Howler Monkey (*Alouatta seniculus*), and one (01) Vulnerable species (VU): Giant Armadillo (*Priodontes maximus*). The IUCN adds Amazon Tapir (*Tapirus terrestris*) and White-lipped Pecary (*Tayassu pecari*) as vulnerable species, but only recognizes *Alouatta seniculus* as a Least Concern species (LC).

In the ornithofauna evaluation, two (02) species reached the vulnerable classification under IUCN: Blue-headed Macaw (*Primolius couloni*) and White-bellied Parrot (*Pionites leucogaster*).

In the herpetozoa assessment, the species *Boa constrictor* was categorized as “Endangered” in Supreme Decree No. 004–2014 MINAGRI.

During the evaluation of flora, only two species were found within the list of species protected by Peru (D.S. 043-2006-AG and from the Red List of the International Union for Conservation of Nature (IUCN).

Table 5.8 summarizes the individuals with the highest degree of vulnerability according to Peruvian legislation and the IUCN, this list is derived from the field assessment conducted in March 2021 (see “Baseline of the biodiversity component of the REDD+ Castañeros project”). In that document, the IUCN database of 2018 was used as the basis for the IUCN classification; however, this document has updated some records to be in accordance with the changes made in the IUCN database between the years 2021 - 2022.

In turn, although this list of endangered species is presented, the project intends to focus on the *Bertholletia excelsa* species, as Brazil nut forests are one of the main drivers of biodiversity in the project area. On the other hand, the focus of the wildlife assessment has been on species richness and abundance indices, with limited emphasis on population levels, so an assessment of population dynamics is not yet available.

By focusing on *Bertholletia excelsa*, the vulnerability requirement of GL3 EXCEPTIONAL BIODIVERSITY BENEFITS is fulfilled by having at least 30 individuals of the same species (listed as Vulnerable by IUCN) in the project area.

Table 5.8. Conservation status

Class	Scientific name	DS N° 004-2014-MINAGRI	IUCN (2021)	CITES
Mammals	<i>Priodontes maximus</i>	VU	VU	I
	<i>Alouatta seniculus</i>	EN	LC	II
	<i>Pteronura brasiliensis</i>	EN	EN	I

	<i>Tapirus terrestris</i>	NT	VU	II
	<i>Tayassu pecari</i>	NT	VU	II
Birds	<i>Pionites leucogaster</i>		VU	II
	<i>Primolius couloni</i>	VU	VU	I
Reptiles	<i>Boa constrictor</i>	EN	LC	II
		D.S. 043-2006-AG	UICN**	CITES***
Flora	<i>Bertholletia excelsa Bonpl.</i>	-	VU	-
	<i>Copaifera paupera (Herzog) Dwyer</i>	VU	LC	-
	<i>Manilkara bidentata</i>	VU	LC	-

5.5.2 Trigger Species Population Trends (GL3.2, GL3.3)

Trigger Species	<i>Bertholletia excelsa</i> H.B.K. (the Brazil nut tree), an emblematic symbol of Madre de Dios. Its presence is a signal of healthy of this ecosystem.
Population Trend at Start of Project	Brazil nut fruits are source of food of wildlife as the Agouti (<i>Dasyprocta fuliginosa</i>), a rodent that is the only one that may break the Brazil nut pod and is the natural seed disperser in the forest. Trees canopies are the habitat of Harpy Eagle (<i>Harpia harpyja</i>) and other birds that use the canopies for nesting in the first years of life (Piana, 2007). It is an heliophyte species that maintains the equilibrium in the ecological system. The extinction of the species or an inadequate extraction may alter this equilibrium. There are 1,086,988 ha of Brazil nut forests and 329,564 ha are located in concessions that are part of the REDD project. As an average, there are 0.67 reproductive trees per hectare, according to Trivedi et al. (2004)⁶⁴. It implies that there is an estimate of 220,808 trees that are being protected by the project. An analysis by Bertwell et al. (2017)⁶⁵ suggests that the most determinant indicator for achieving long-term stability of Brazil nut population is the survival of saplings and adults, along with an assurance of large numbers of seedling recruits. They found (state of Acre, Brazil) that the size at which most individuals reach maturity is at 40 cm dbh, which implies an average time of 73 - 93 years, to more than 100 years. The long juvenile period and the high sensitivity of the population growth from the passage from the juvenile to the adult stage, implies that a focus on the protection of these saplings should be generated. Also, Zuidema and Boot (2002)⁶⁶ commented that <i>Bertholletia</i> (from the Bolivian Amazon) is characterized by a highly variable growth rate for seedlings to medium-sized (dbh < 50 cm) trees. Its demography is characterized by a long-life span: large trees (> 160 cm dbh) may age over three centuries. Trees in the most abundant adult size categories averaged an estimated 200 years.

⁶⁴ Trivedi, M. Cornejo, F. Watkinson, A. 2004. Seed predation on Brazil Nuts (*Bertholletia excelsa*) by macaws (Psittacidae) in Madre de Dios, Peru. Biotropica, 36 r (1), 118-122. <https://doi.org/10.2307/30043095>

⁶⁵ Bertwell, T. D., Kainer, K. A., Cropper, W. P., Staudhammer, C. L., & de Oliveira Wadt, L. H. (2017). Are Brazil nut populations threatened by fruit harvest? Biotropica, 50(1), 50–59. doi:10.1111/btp.12505.

⁶⁶ Zuidema, P. A., & Boot, R. G. A. (2002). Demography of the Brazil nut tree (*Bertholletia excelsa*) in the Bolivian Amazon: impact of seed extraction on recruitment and population dynamics. Journal of Tropical Ecology, 18(01), 1–31. doi:10.1017/s0266467402002018

	Soriano et al. (2021)⁶⁷ found that some management practices (liana cutting), commonly carried out by Brazil nut harvesters, promote fruit production, and can potentially improve long-term population stability by increasing growth rates. Population stability occurs when the population growth rate has reached a stable size distribution (Caswell, 2001)⁶⁸. According to their projection model, <i>Bertholletia excelsa</i> populations under average management by fruit harvesting, logging intensity, and liana cutting practices, have a positive impact on growth rates, and this is likely related to its positive effect on seedling growth during the first four years since logging. This demonstrates that gaps created by logging play a positive role not only in improving <i>Bertholletia</i> regeneration density, but also in its long-term population stability. A higher logging (up to 15% of disturbed area) and liana cutting intensity (up to 90% of reproductive trees with lianas cut) could potentially allow harvesting a large percentage (up to 89%) of Amazon nut seeds and still ensure <i>Bertholletia</i> population stability. Zuidema and Boot (2002) found that the maintenance and growth of an exploited population is rather insensitive to changes in reproduction, but very sensitive to small changes in the probability of staying in a certain size category. Population growth strongly depends on the survival probability in the last categories. Survival rate in these categories is typically high for long-lived trees. Age estimates indicate that <i>Bertholletia</i> trees may age over a century before producing a considerable number of fruits (at 60-80 cm dbh), and that the period during which trees are reproductive is long, often amounting to over 150 years. This implies that it will take very long before changes in production of fruits as a result of exploitation can be detected in the number of fruits produced. In turn, in exploited populations, recruitment does take place: there is input of new seedlings and individuals of all size categories can be found in exploited populations. Therefore, current extraction practices will not lead to future changes in size distribution of <i>Bertholletia</i>, thus suggesting that high levels of Brazil-nut extraction may be sustained at least for several decades without reducing production potential and that there are good prospects for continued regeneration of exploited populations, which would safeguard productivity for even longer periods. As can be seen from the papers of Tourne et al. (2019)⁶⁹, and Thomas et al. (2014)⁷⁰, the potential distribution of Brazil nut in Peru is centered in the northeastern sector of Madre de Dios. These habitat suitability models are based on climatic conditions that could hinder the establishment of this species as natural conditions change due to climate change. However, this habitat increase is closely linked to anthropogenic activity, and given the fragility and time it takes to reach maturity, anthropogenic changes, the
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⁶⁷ Soriano, M., Zuidema, P.A., Barber, C., Mohren, F., Ascarrunz, N., Licona, J.C., Peña-Claros, M. (2021). Commercial Logging of Timber Species Enhances Amazon (Brazil) Nut Populations: Insights from Bolivian Managed Forests. *Forests* 12(8):1059. <https://doi.org/10.3390/f12081059>

⁶⁸ Caswell, H. (2001). *Matrix Population Models: Construction, Analysis, and Interpretation*, 2nd ed.; Sinauer Associates, Inc. Publishers: Sunderland, MA, USA.

⁶⁹ Tourne, D. C. M., Ballester, M. V. R., James, P. M. A., Martorano, L. G., Guedes, M. C., & Thomas, E. (2019). Strategies to optimize modeling habitat suitability of *Bertholletia excelsa* in the Pan-Amazonia. *Ecology and Evolution*, 9(22), 12623–12638. Portico. <https://doi.org/10.1002/ece3.5726>

⁷⁰ Thomas, E., Caicedo, C., Loo, J., & Kindt, R. (2014). The distribution of the Brazil nut (*Bertholletia excelsa*) through time: from range contraction in glacial refugia, over human-mediated expansion, to anthropogenic climate change. *Boletim Do Museu Paraense Emílio Goeldi - Ciências Naturais*, 9(2), 267-291. <https://doi.org/10.46357/bcnaturais.v9i2.525>

proximity of new access, and the advancement of deforestation are considered to be of more immediate concern than Brazil nut harvest rates (Bertwell et al., 2011), or climate change (Thomas et al., 2014). Thus, although a sustainable harvest of fruits is feasible, prevention and conservation actions should be more closely linked to the safeguarding of young individuals and the sustainable use of already mature individuals, in order to promote a homogeneous size distribution of the population, in combination with actions that minimize unsustainable impacts (expansion of agricultural frontiers, large-scale deforestation, among others).

Figure A. Habitat suitability of Brazil nut (Tourne et al. 2019)

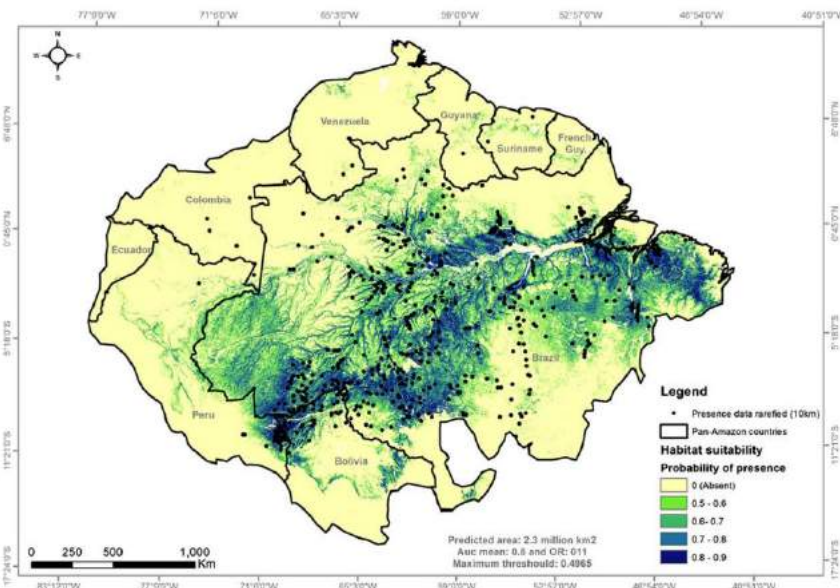
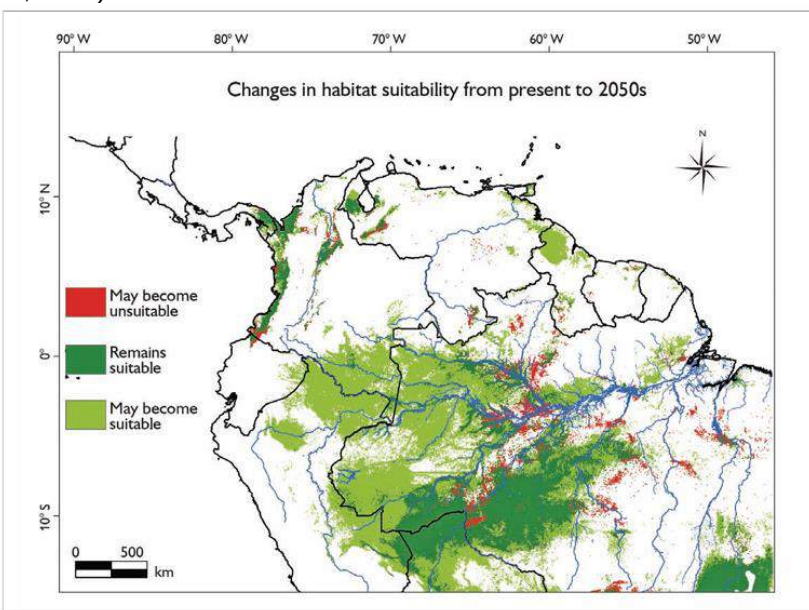


Figure B. Changes in habitat suitability form present to 2050s (Thomas et al., 2014)



Without-project
Scenario

The without-project scenario implies a continuation of the deforestation rates, that will produce an elimination of 30% of the project area, and around 67.126 trees. As the deforestation is not continuous but has a

	mosaic pattern, the negative impact on the biological connectivity will be higher than 30%. As this is an umbrella specie, many species that depend on their fruits and canopies will be affected too.
With-project Scenario	All the measures defined in the theory of change are directly addressed to protect the Brazil nut tree as it is the base of the economy of the BN collectors, the partners of the current project. As the project plans the reforestation of cleared areas with BN trees, the project may expect more trees than the initial number of existing trees.

6. APPENDIXES

6.1 Appendix 1: Centroid Coordinates of Concessions in Project Area

Table 6.1. Centroid Coordinates of Concessions in Project Area

ID	Concessioner's Name	Contract Code	X	Y
1	Sebastian Tapuy Panduro	17-TAH/C-OPB-A-001-05	463346	8701437
2	Víctor Encinas Espinoza	17-TAH/C-OPB-A-002-09	399309	8702281
3	Eufrosia Parillo Quispe	17-TAH/C-OPB-A-003-05	467251	8696897
4	Edgar Collado Delgado	17-TAH/C-OPB-A-004-05	439345	8706091
5	Florencia Paredes Dueñas	17-TAH/C-OPB-A-004-06	479559	8671876
6	Josú Carmen Saavedra Damian	17-TAH/C-OPB-A-004-08	437167	8697515
7	Miguel Silva Pereira	17-TAH/C-OPB-A-005-05	464818	8719263
8	Flor De María Cumari De Mori	17-TAH/C-OPB-A-005-06	477412	8671304
9	Ignacio Noa Grifa	17-TAH/C-OPB-A-006-05	470414	8709776
10	Miriam Laura Quispe	17-TAH/C-OPB-A-007-06	429180	8688810
11	Asunta Olivia Díaz Moreno	17-TAH/C-OPB-A-009-06	458403	8705563
12	Carlos/Catalina Mamani C Dea Campo	17-TAH/C-OPB-A-010-06	460166	8698356
13	Juana Contreras Suclli	17-TAH/C-OPB-A-010-08	422925	8699007
14	Daniel Mamani Jaramillo	17-TAH/C-OPB-A-011-06	455171	8692685
15	Edilberto Dea Rodríguez	17-TAH/C-OPB-A-013-06	458302	8702335
16	Húctor Ernesto Pizango Navi	17-TAH/C-OPB-A-014-06	458179	8687741
17	Hilda Dea Rodríguez	17-TAH/C-OPB-A-015-06	456936	8698632
18	Josú Mario Noa Grifa	17-TAH/C-OPB-A-017-06	455298	8701554
19	Martina Sabina Mamani Cahuana	17-TAH/C-OPB-A-018-06	461745	8695550
20	Teresa Pizango Navi	17-TAH/C-OPB-A-019-06	460143	8690912
21	Ulises Arimuya Grifa	17-TAH/C-OPB-A-020-06	457186	8692949
22	Elkjaer Albert Farfán Noa	17-TAH/C-OPB-A-033-08	462666	8722152
23	Isabel Vizcarra Yatto	17-TAH/C-OPB-A-034-08	456190	8717243

ID	Concessioner's Name	Contract Code	X	Y
24	Elena Paredes Espinoza	17-TAH/C-OPB-A-036-08	390717	8702769
25	Josú Cahuana Saravia	17-TAH/C-OPB-A-038-08	455197	8710035
26	Urias Valdúz Tapuy	17-TAH/C-OPB-A-041-08	479904	8712312
27	Rocío Luz Mamani Ancoco	17-TAH/C-OPB-A-046-08	457364	8719960
28	Pascual Flores Castillejos	17-TAH/C-OPB-A-048-08	434279	8707456
29	Nelson Herrin Noa Grifa	17-TAH/C-OPB-A-051-08	468962	8707945
30	María Mory Cumary	17-TAH/C-OPB-A-053-08	458972	8721997
31	Luis Alberto Ingaruca Báez	17-TAH/C-OPB-A-056-08	439748	8711250
32	Aidú Ramírez Gastelú	17-TAH/C-OPB-A-075-08	458199	8715660
33	Lázaro Marín Rodríguez	17-TAH/C-OPB-A-076-08	455731	8714634
34	Juan Gualberto Chota Leon	17-TAH/C-OPB-J-002-04	496751	8694038
35	Alicia Fatima Noa Grifa	17-TAH/C-OPB-J-004-04	461565	8717998
36	Lina Sahuarico Begazo	17-TAH/C-OPB-J-007-03	463304	8716393
37	Madeley Tapuy Palla	17-TAH/C-OPB-J-008-03	463955	8704690
38	Luis Collque Quispe	17-TAH/C-OPB-J-009-03	459230	8714253
39	María Zaida Rodriguez Tapuy	17-TAH/C-OPB-J-010-03	459066	8718386
40	Sixto Carazas Quispe	17-TAH/C-OPB-J-011-04	482993	8709020
41	Emilio Macochoa Noa	17-TAH/C-OPB-J-012-04	455725	8712166
42	Hilario Grifa Palla	17-TAH/C-OPB-J-015-03	473248	8720856
43	Andres Cutipa Gonzales	17-TAH/C-OPB-J-017-03	499837	8687548
44	Pedro Quispe Kana	17-TAH/C-OPB-J-018-04	451698	8703109
45	Mohasi Vasquez Rolin	17-TAH/C-OPB-J-019-04	444656	8701150
46	Alejandrina Huesembe De Marchena	17-TAH/C-OPB-J-020-04	479878	8688668
47	Jeronimo Emiliano Taipe Chuima	17-TAH/C-OPB-J-021-04	439252	8703142
48	Santiago Taipe Chuima	17-TAH/C-OPB-J-023-04	435872	8703059
49	Julia Saca Alvarez	17-TAH/C-OPB-J-024-04	468109	8700866
50	Rosa Tapia De Ramirez	17-TAH/C-OPB-J-025-04	485040	8691808
51	Melchor Huaracha Yauri	17-TAH/C-OPB-J-026-04	449767	8697154
52	Wilfredo De La Peña Gonzales	17-TAH/C-OPB-J-028-04	484694	8694672

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53	Carlos Antonio Valdivia Sanchez	17-TAH/C-OPB-J-030-04	476855	8696905
54	Fidel Yupanqui Dueñas	17-TAH/C-OPB-J-031-04	469367	8703277
55	Ana Jacinto Quispe	17-TAH/C-OPB-J-032-04	464524	8707659
56	Braulio Valencia Valencia	17-TAH/C-OPB-J-035-04	469813	8695708
57	Armando Mejia Lopez	17-TAH/C-OPB-J-036-04	474968	8699102
58	Encarnación Mamani Larico	17-TAH/C-OPB-J-037-04	473757	8696362
59	Enrique Tije Arasaire	17-TAH/C-OPB-J-038-04	470512	8698457
60	Adolfina Yalta Gonzales	17-TAH/C-OPB-J-042-04	478001	8695674
61	Luz Marina Grandiller Olivera	17-TAH/C-OPB-J-043-04	481680	8695700
62	Wilfredo Valdez Macochoa	17-TAH/C-OPB-J-045-04	482521	8715347
63	María Adela Moreno Tapuy	17-TAH/C-OPB-J-046-04	476783	8711696
64	Manuel Vargas Cucho	17-TAH/C-OPB-J-047-04	474312	8688238
65	Macario Dionicio Cuadros Quispe	17-TAH/C-OPB-J-048-04	472278	8691500
66	Vidal Diaz Vargas	17-TAH/C-OPB-J-049-04	472382	8700315
67	Martin Laura Herrera	17-TAH/C-OPB-J-050-04	474221	8702059
68	Rigoberto Paredes Martinez	17-TAH/C-OPB-J-051-04	477901	8698429
69	Cancio Huaman Hurtado	17-TAH/C-OPB-J-052-04	486690	8695974
70	Marcelino Cruz Apaza	17-TAH/C-OPB-J-053-04	490757	8696571
71	Miguel Farfán Gómez	17-TAH/C-OPB-J-057-04	468728	8687180
72	María Elvira Cahuana Tapuy	17-TAH/C-OPB-J-058-04	478593	8717665
73	Saturnino Demetrio Parillo Quispe	17-TAH/C-OPB-J-060-04	417969	8705485
74	Jacinto Parillo Quispe	17-TAH/C-OPB-J-061-04	466818	8718164
75	Alejandrina Mendoza Cuaresma	17-TAH/C-OPB-J-063-04	464305	8685481
76	Blanca Victoria Sahuarico De Aradivi	17-TAH/C-OPB-J-065-04	480323	8702234
77	Alberto Garcia Rojas	17-TAH/C-OPB-J-066-04	478759	8704953
78	Josú De La Cruz Carrasco	17-TAH/C-OPB-J-067-04	482859	8693165
79	Gerónimo Quispe Quispe	17-TAH/C-OPB-J-068-04	463012	8698727
80	Celinda Gonzales Carrillo	17-TAH/C-OPB-J-070-04	483513	8697736
81	Adelma Alicia Palla Dea	17-TAH/C-OPB-J-072-04	466005	8699154

ID	Concessioner's Name	Contract Code	X	Y
82	Cipriano Tito Quispe	17-TAH/C-OPB-J-074-04	495321	8693729
83	Clemente Ccolque Champi	17-TAH/C-OPB-J-075-04	466078	8702869
84	Marcelino Sayago Ortega	17-TAH/C-OPB-J-080-04	465468	8696599
85	Laura Palla Panduro	17-TAH/C-OPB-J-084-04	483216	8703680
86	Lucio Andrés Pizango Navi	17-TAH/C-OPB-J-085-04	463526	8689712
87	Rodolfo Herrera Inuma	17-TAH/C-OPB-J-088-04	496643	8689543
88	Zenobio Grandiller Olivera	17-TAH/C-OPB-J-090-04	482072	8695121
89	Alfredo Zambrano Tapia	17-TAH/C-OPB-J-091-04	480721	8690682
90	Felix Alvarez Gonzales	17-TAH/C-OPB-J-092-04	491258	8700854
91	Mirian Marice Herbozo Reategui	17-TAH/C-OPB-J-095-04	479092	8685871
92	Miguel Antonio Grandiller Olivera	17-TAH/C-OPB-J-097-04	482106	8696693
93	Sergio Flores Lloza	17-TAH/C-OPB-J-098-04	488766	8701305
94	Cesar Gerardo Macocha Noa	17-TAH/C-OPB-J-100-04	477817	8721656
95	David Rodriguez Grifa	17-TAH/C-OPB-J-101-04	473280	8717863
96	David Rodriguez Tenoy	17-TAH/C-OPB-J-102-04	474042	8704548
97	Juan Saavedra Meza	17-TAH/C-OPB-J-105-04	475933	8722821
98	Regina Palla De Calle	17-TAH/C-OPB-J-108-04	470683	8720320
99	Maríano Barbaro Jacinto Irco	17-TAH/C-OPB-J-109-04	477608	8701691
100	Alberto Alfredo Palla Panduro	17-TAH/C-OPB-J-115-04	486421	8706088
101	Alejandro Vilca Mamani	17-TAH/C-OPB-J-116-04	466747	8705249
102	Luis Enrique Del Aguila Sinuire	17-TAH/C-OPB-J-119-04	444259	8704670
103	María Jesús Grandiller Olivera	17-TAH/C-OPB-J-120-04	482178	8698222
104	Oscar Sahuarico Begazo	17-TAH/C-OPB-J-122-04	470655	8705786
105	Luz Eva Valdivia Sanchez	17-TAH/C-OPB-J-123-04	486790	8703843
106	Nelson Arnaldo Morey Silva	17-TAH/C-OPB-J-124-04	464979	8694324
107	Angel Augusto Cespedes Tapia	17-TAH/C-OPB-J-125-04	494108	8697089
108	Aurelio Armando Mamani Mamani	17-TAH/C-OPB-J-126-04	469884	8690664
109	Ursula Ursina Pizango Navi	17-TAH/C-OPB-J-127-04	417347	8699487
110	Julio Chambi Cahuana	17-TAH/C-OPB-J-129-04	470539	8727729

ID	Concessioner's Name	Contract Code	X	Y
111	Juliana Parillo Quispe	17-TAH/C-OPB-J-131-04	415259	8703979
112	Eduardo Palomino Melo	17-TAH/C-OPB-J-132-04	498168	8690215
113	Victor Macochoa Machoa	17-TAH/C-OPB-J-133-04	472629	8698837
114	Hipolito Cesar Condori Limpe	17-TAH/C-OPB-J-136-04	466883	8691340
115	Nancy Rosmeri Macochoa Tapia	17-TAH/C-OPB-J-137-04	480639	8709498
116	Máximo Julio Ventura Monasterio	17-TAH/C-OPB-J-139-04	462948	8696343
117	Carlos Gongora Cabaña	17-TAH/C-OPB-J-142-04	489039	8694687
118	Paola Dulanto Chapiama	17-TAM/C-OPB-A-001-05	430058	8658555
119	Guillermo Rios Pickman	17-TAM/C-OPB-A-001-07	438862	8640680
120	Eduardo Cumari Papa	17-TAM/C-OPB-A-002-07	480190	8670064
121	Nicanor Kuno Peña	17-TAM/C-OPB-A-002-08	483146	8639854
122	Nora Albina Grifa Horiuchi	17-TAM/C-OPB-A-003-06	408335	8626321
123	Leonor Quispe Huaman	17-TAM/C-OPB-A-006-05	426575	8691000
124	Walter F Pinche Guzman/ Marilyn Luz Bautista Barros	17-TAM/C-OPB-A-007-06	413105	8649238
125	María Francizca Barros Guerra	17-TAM/C-OPB-A-008-06	415961	8647005
126	Pascual Huaman Fuentes	17-TAM/C-OPB-A-009-05	478362	8649384
127	Sara Hurtado Orosco	17-TAM/C-OPB-A-009-06	476185	8662412
128	Andres Avelino Rojas Aguirre	17-TAM/C-OPB-A-010-05	437117	8648301
129	Felix Antonio Huaman Gutierrez	17-TAM/C-OPB-A-010-07	429056	8649144
130	Nimia Medina Bate	17-TAM/C-OPB-A-011-06	404849	8622321
131	Wilson Guzman Ramirez	17-TAM/C-OPB-A-014-05	435853	8644986
132	Georgina Sangama Huesembe	17-TAM/C-OPB-A-014-06	467386	8655405
133	Rosa Graciela Sanchez Arquino	17-TAM/C-OPB-A-015-07	399952	8630898
134	Bacilia Mamani Sucasaire	17-TAM/C-OPB-A-017-06	501054	8672824
135	Eloy Bernabe Cassanca Mosombite	17-TAM/C-OPB-A-018-06	440761	8686952
136	Adrian Canelos Quiróz	17-TAM/C-OPB-A-020-05	421139	8619979
137	Fredy Aliaga Condori	17-TAM/C-OPB-A-021-05	409992	8617323
138	Faustina Quispe Carrasco	17-TAM/C-OPB-A-026-07	443998	8668012
139	José Cotaluque Maihua	17-TAM/C-OPB-A-027-05	458720	8664762

ID	Concessioner's Name	Contract Code	X	Y
140	Sonia Victoria Santibanez Caceres	17-TAM/C-OPB-A-028-06	402641	8623985
141	Julia Sahuarico Ovalle	17-TAM/C-OPB-A-029-05	402203	8657743
142	Edinson Eloy Gongora Martinez	17-TAM/C-OPB-A-032-04	473627	8625752
143	Gustavo Alejandro Rios Hermoza	17-TAM/C-OPB-A-033-07	412321	8629031
144	Héctor Cardicel Perez	17-TAM/C-OPB-A-037-05	419980	8644333
145	Jacinta Huaman Apaza	17-TAM/C-OPB-A-039-04	495334	8671433
146	Erasmus Cardicel Tananta	17-TAM/C-OPB-A-039-05	421621	8641716
147	Rocio Miluska Durand Chavez	17-TAM/C-OPB-A-041-07	425225	8654611
148	Luis Alberto Farfan Pezo	17-TAM/C-OPB-A-043-07	404517	8637188
149	Marly Villavicencio Mamani	17-TAM/C-OPB-A-044-07	373557	8636761
150	Juan Vargas Ramirez	17-TAM/C-OPB-A-045-05	424730	8641798
151	José Chavez Chambi	17-TAM/C-OPB-A-047-07	411892	8652199
152	Elmer Perez Piño	17-TAM/C-OPB-A-049-07	423514	8655549
153	Saul Abuid Vargas	17-TAM/C-OPB-A-050-05	474143	8654002
154	Dolores Chavez Yumacal	17-TAM/C-OPB-A-053-05	409140	8655322
155	Orfelinda Ochoa Pizango	17-TAM/C-OPB-A-054-05	419125	8652528
156	Juan Ernesto Rivera Lazo	17-TAM/C-OPB-A-057-05	412862	8636630
157	Raul Vargas Racua	17-TAM/C-OPB-A-058-05	490589	8661414
158	Dagui Marilu Ynuma Beyuma	17-TAM/C-OPB-A-058-07	414450	8675175
159	Eugenia Ramos Salcedo	17-TAM/C-OPB-A-059-04	470729	8662055
160	Edgar Tipula Mullisaca	17-TAM/C-OPB-A-062-07	405286	8662040
161	Oswaldo Saavedra Gongora	17-TAM/C-OPB-A-074-07	426241	8663189
162	Andres Ernesto Cachique Chapiana	17-TAM/C-OPB-A-075-07	431960	8677943
163	Liliana Solis Chalco	17-TAM/C-OPB-A-076-07	434430	8675508
164	Faustina Vicente Paucar	17-TAM/C-OPB-A-080-07	440414	8670372
165	Jorge W. Galindo Tineo	17-TAM/C-OPB-A-107-04	449033	8644562
166	Maximo Eleuterio Tapia Santos	17-TAM/C-OPB-A-109-04	439386	8631018
167	Jorge Carlos Gonzales Irarica	17-TAM/C-OPB-A-110-04	505326	8671054
168	Carlos Revilla Gonzales / Valerio Carrasco	17-TAM/C-OPB-A-111-04	465318	8678708

ID	Concessioner's Name	Contract Code	X	Y
169	Abigail Sanz Salinas	17-TAM/C-OPB-A-112-04	447626	8639704
170	Segundo Moreno Caypo	17-TAM/C-OPB-A-118-04	464391	8665967
171	Pablo Bolivar Alvarez	17-TAM/C-OPB-A-122-04	468767	8666628
172	Mateo Vargas Dueñas	17-TAM/C-OPB-A-125-04	495144	8641190
173	Leoncio Jasmani Huaraca Jaquehua	17-TAM/C-OPB-A-127-04	460835	8665132
174	Jesús Racua Rodriguez	17-TAM/C-OPB-A-131-04	485505	8644951
175	Felix Armando Arimuya Inuma	17-TAM/C-OPB-A-137-04	472942	8669111
176	Felipe Mosqueira Trujillo/Miriam Yoni Aragon Paredes	17-TAM/C-OPB-A-138-04	516874	8655796
177	David Asturima Huamantica	17-TAM/C-OPB-A-141-04	440534	8681496
178	Bethy María Antas Vasquez	17-TAM/C-OPB-A-143-04	496067	8676968
179	Jorge Castillo Pacherez	17-TAM/C-OPB-A-146-04	447067	8643754
180	Francisco Chavez Chura	17-TAM/C-OPB-A-147-04	483946	8649774
181	Nelson Belluma Huanuyre	17-TAM/C-OPB-A-150-04	474512	8622421
182	Carmelo Moreno Cachique	17-TAM/C-OPB-A-154-04	460792	8669746
183	Jesús Econema Cacula	17-TAM/C-OPB-A-155-04	469679	8673766
184	Justo Ticona Colquehuanca	17-TAM/C-OPB-A-158-04	414778	8607281
185	Saturnino Villafuerte Blanco	17-TAM/C-OPB-A-160-04	490740	8669093
186	Felicitas Macochoa Grifa	17-TAM/C-OPB-A-161-04	470633	8652396
187	Enrique Navio Arias	17-TAM/C-OPB-A-163-04	477628	8682141
188	Teodocia V Huaraca Maquehua/ Aurelio Layme	17-TAM/C-OPB-A-164-04	461043	8663210
189	Bladimira Cevallos Cachique	17-TAM/C-OPB-A-165-04	461636	8681606
190	David Palomino Turpo	17-TAM/C-OPB-A-169-04	494943	8670608
191	Rene Gualberto Mejia David	17-TAM/C-OPB-A-172-04	483601	8665404
192	Celso Flores Sanipico	17-TAM/C-OPB-A-177-04	466399	8650534
193	Ana Gonzales De Rodriguez	17-TAM/C-OPB-A-179-04	431565	8679467
194	Reynaldo Kuno Cumpa	17-TAM/C-OPB-A-182-04	472586	8650293
195	Lucas Gallegos Mejia	17-TAM/C-OPB-A-183-04	475018	8651198
196	Humberto Ovalle Arana	17-TAM/C-OPB-A-185-04	399546	8657858
197	Julian Mamani Chino	17-TAM/C-OPB-A-189-04	491545	8664915

ID	Concessioner's Name	Contract Code	X	Y
198	Leopoldo Flores Rodriguez	17-TAM/C-OPB-A-190-04	462883	8636440
199	Ysela Aida Bolivar Barriga	17-TAM/C-OPB-A-194-04	470410	8666166
200	Gerardo Cesar Guzman Quispe	17-TAM/C-OPB-A-198-04	490172	8644598
201	Agustin Huamani Anco	17-TAM/C-OPB-A-199-04	515826	8658410
202	Alfonso Vicente Quispe Quiñones	17-TAM/C-OPB-A-204-04	494318	8674734
203	Alfonsa Moreno Aguirre	17-TAM/C-OPB-A-207-04	457916	8628418
204	Eleuterio Jurado Frisancho	17-TAM/C-OPB-A-209-04	435296	8690666
205	Alvino Lima Cconchoy	17-TAM/C-OPB-A-215-04	434432	8685864
206	Aide H. Mejia Ramirez Viuda De Valera	17-TAM/C-OPB-A-230-04	491012	8679209
207	Victoria Ortega Flores	17-TAM/C-OPB-J-001-04	425809	8685592
208	Antonio Mamani Conto	17-TAM/C-OPB-J-002-04	437881	8685151
209	Estanislao Lopez Vera	17-TAM/C-OPB-J-004-03	445596	8624928
210	Hortensia Canelos Macochoa	17-TAM/C-OPB-J-007-02	430940	8624089
211	Sofia Del Carpio Chair	17-TAM/C-OPB-J-007-04	522696	8633362
212	Nelson Lopez Aguirre	17-TAM/C-OPB-J-008-03	443253	8626650
213	Cesar Augusto Reyna Durand	17-TAM/C-OPB-J-008-04	515098	8659679
214	Luz Angelica Roca Guerra	17-TAM/C-OPB-J-010-02	501950	8663742
215	Delio Mendiguri Mendoza	17-TAM/C-OPB-J-011-04	475983	8658044
216	Segundino Torres Huaman	17-TAM/C-OPB-J-012-04	430959	8684178
217	Domingo Carpio Claros	17-TAM/C-OPB-J-013-02	464245	8676141
218	Juan Manuel Huamani Anco	17-TAM/C-OPB-J-013-04	515160	8655235
219	Pedro Liberato Amau Gallegos	17-TAM/C-OPB-J-014-03	501956	8669963
220	Elena Mamani Huallpa	17-TAM/C-OPB-J-015-04	446839	8679261
221	Fransisco Diaz Vargas	17-TAM/C-OPB-J-016-04	468131	8679169
222	Martin Ascue Sallo	17-TAM/C-OPB-J-017-04	421007	8687337
223	Pedro Surco Achahuanca	17-TAM/C-OPB-J-019-03	494338	8666846
224	Armando Taricuarima Mozombite	17-TAM/C-OPB-J-019-04	497171	8668466
225	Faustino Chalco Paucar	17-TAM/C-OPB-J-020-03	435957	8680436
226	Sergio Cusi Huaman	17-TAM/C-OPB-J-022-04	482963	8676759

ID	Concessioner's Name	Contract Code	X	Y
227	Miguel Torres Cuevas	17-TAM/C-OPB-J-025-02	506907	8659999
228	Manuel Quispe Gutiérrez	17-TAM/C-OPB-J-025-03	485721	8641050
229	Martha Huaman Quispe	17-TAM/C-OPB-J-026-04	496888	8659631
230	Wilbert Mesco Zevallos	17-TAM/C-OPB-J-027-03	478060	8656977
231	Alfredo Ubaldo Moreno Fuller	17-TAM/C-OPB-J-027-04	466646	8665735
232	Soledad Ruiz Torres	17-TAM/C-OPB-J-029-04	428184	8645152
233	Cornelio Bolívar Vizarrata	17-TAM/C-OPB-J-030-04	485678	8643417
234	Constantino Huaman Casas	17-TAM/C-OPB-J-031-03	497740	8673499
235	Ruben Uartiaga Murrieta	17-TAM/C-OPB-J-032-03	451374	8665712
236	Jacinto Moscoso Ramirez	17-TAM/C-OPB-J-033-04	476659	8634293
237	Juan Flores Machaca Clara Flores Panduro	17-TAM/C-OPB-J-035-02	481737	8672338
238	Alcides Ccuno Chahuara	17-TAM/C-OPB-J-035-03	523182	8641824
239	Leonidas Cuno Solis	17-TAM/C-OPB-J-038-02	464795	8638480
240	Nicolas Argandoña Piña	17-TAM/C-OPB-J-038-04	480948	8676289
241	Felipe Mauricio Limachi Paucar	17-TAM/C-OPB-J-040-02	520042	8632727
242	Elvira Jaqueline Vizcarra Yatto	17-TAM/C-OPB-J-043-03	407620	8621318
243	Joyse Magdalena Moreno Inuma	17-TAM/C-OPB-J-045-04	460968	8671996
244	Pedro Crisologo Moreno Huanuyre	17-TAM/C-OPB-J-047-03	467680	8660439
245	Cristobal Sullca Huaman	17-TAM/C-OPB-J-049-04	442165	8689546
246	Eulogio Quispe Chani	17-TAM/C-OPB-J-051-02	493502	8656521
247	Julian Mora Huaman	17-TAM/C-OPB-J-052-03	434832	8678498
248	Rufino Condori Cahuata	17-TAM/C-OPB-J-052-04	472402	8665199
249	Guillermo Miguel Racua Caya / Rolando Racua Reaño	17-TAM/C-OPB-J-053-04	484360	8640397
250	Mateo Tejeira Huillca	17-TAM/C-OPB-J-056-03	500551	8676106
251	Juan Tito Condori Suyo	17-TAM/C-OPB-J-058-04	474156	8666271
252	Jorge Vargas Quiróz	17-TAM/C-OPB-J-059-03	491585	8653611
253	Marcos Olgado Quispe	17-TAM/C-OPB-J-060-03	490151	8642471
254	German Revilla Gonzales	17-TAM/C-OPB-J-060-04	484770	8655000
255	María B Sangama De Benites/ Aldo Herrera G	17-TAM/C-OPB-J-061-02	498763	8654116

ID	Concessioner's Name	Contract Code	X	Y
256	María Salome Mendivil Medina	17-TAM/C-OPB-J-061-03	468033	8681865
257	Catherine Melendez Vargas	17-TAM/C-OPB-J-062-04	483550	8656576
258	Jaime Llamas Martinez	17-TAM/C-OPB-J-063-04	463207	8625674
259	Washinton Maceda Irarica	17-TAM/C-OPB-J-064-03	411171	8626557
260	Avelino Ricardo Tuesta Guevara	17-TAM/C-OPB-J-064-04	464182	8621404
261	Juana Julia Gongora Cabana	17-TAM/C-OPB-J-067-03	428978	8633533
262	Rodolfo Mamani Yari	17-TAM/C-OPB-J-067-04	476958	8644210
263	Delfin Rodriguez Flores	17-TAM/C-OPB-J-070-03	444923	8682837
264	Mauricio Cassa Champi	17-TAM/C-OPB-J-070-04	480366	8652520
265	Erasmus Condori Flores	17-TAM/C-OPB-J-071-03	516671	8636701
266	Andres Guerra Irarica	17-TAM/C-OPB-J-072-03	504764	8659035
267	Siles Flores Rengifo	17-TAM/C-OPB-J-072-04	440399	8624150
268	Florencia Ascue Sallo	17-TAM/C-OPB-J-073-03	439700	8679003
269	Luz Mila Cachique Perdiz	17-TAM/C-OPB-J-073-04	457269	8682362
270	Hermelinda Pacco Molina	17-TAM/C-OPB-J-074-04	468533	8637665
271	Paula A. Guerra Flores	17-TAM/C-OPB-J-076-03	503524	8659209
272	Fidelia Mamani Pari	17-TAM/C-OPB-J-077-02	451664	8668312
273	Sofia Rosa Paredes Dueñas	17-TAM/C-OPB-J-078-03	511343	8660963
274	Luis Racua Salazar	17-TAM/C-OPB-J-078-04	491254	8641567
275	Marcos Maximiliano Gonzales Gamarra	17-TAM/C-OPB-J-079-02	449699	8677661
276	Elvis Ivan Barriga Guevara	17-TAM/C-OPB-J-079-03	509167	8632370
277	Serapio Velasquez Limpi	17-TAM/C-OPB-J-080-04	473947	8645454
278	Rafael Lorenzo Jara Quispe	17-TAM/C-OPB-J-081-04	494157	8645866
279	Pedro Quispe Quispe	17-TAM/C-OPB-J-083-03	479454	8643386
280	Esteban Halanocca Quispe	17-TAM/C-OPB-J-086-04	491317	8639629
281	Saturnina Maileva Chavez	17-TAM/C-OPB-J-088-02	423510	8630174
282	Froilan Quispe Ttupa	17-TAM/C-OPB-J-091-03	473123	8660474
283	Leonardo Aladino Racua Cacuna	17-TAM/C-OPB-J-091-04	492955	8641586
284	Gregoria Roca Guerra	17-TAM/C-OPB-J-092-03	500398	8663532

ID	Concessioner's Name	Contract Code	X	Y
285	Juan Carlos Flores Del Castillo	17-TAM/C-OPB-J-092-04	447820	8627540
286	María Rosa Vargas Racua	17-TAM/C-OPB-J-093-04	492598	8662007
287	Eulogio Puma Checcori	17-TAM/C-OPB-J-095-04	475653	8681983
288	Leoncio Pacheco Ayala	17-TAM/C-OPB-J-096-03	457397	8674710
289	Oscar Angel Alvarez Belson	17-TAM/C-OPB-J-096-04	436048	8656126
290	Nicomedes Ayte Vargas	17-TAM/C-OPB-J-097-03	480204	8665003
291	Juan Vicente Sanchez Pinedo	17-TAM/C-OPB-J-097-04	442600	8659316
292	Victor Econema Pacaya	17-TAM/C-OPB-J-098-04	400000	8623505
293	Jesús Torres Vasquez	17-TAM/C-OPB-J-100-02	418570	8639528
294	Bonifacio Rocca Tito	17-TAM/C-OPB-J-101-04	502607	8667779
295	Florentino Cañari Turpo	17-TAM/C-OPB-J-102-02	440981	8650743
296	Ladio Bolivar Huamani	17-TAM/C-OPB-J-102-04	438226	8621239
297	Cosme Dueñas Merma	17-TAM/C-OPB-J-103-03	495277	8655655
298	Bernardino Villafuerte Mamani	17-TAM/C-OPB-J-104-04	463200	8653121
299	Asunta Amasifuen De Llamas	17-TAM/C-OPB-J-106-04	440088	8655480
300	Carlos Gutierrez Villamar	17-TAM/C-OPB-J-108-03	467985	8652607
301	Edith Glady Herboso Reategui	17-TAM/C-OPB-J-112-03	444880	8652235
302	Carlos Miguel Caviña Balarezo	17-TAM/C-OPB-J-114-03	450081	8685235
303	Juan Enrique Pereyra Guerra	17-TAM/C-OPB-J-116-03	454203	8664797
304	Wilfredo Mendiguri Mendoza	17-TAM/C-OPB-J-117-03	474554	8659111
305	Luis Reynaldo Canelos Grifa	17-TAM/C-OPB-J-119-03	432706	8626427
306	Ulises Moreno Huanuire	17-TAM/C-OPB-J-123-03	461661	8667355
307	Victor Alfredo Zeballos Mozombite	17-TAM/C-OPB-J-124-03	455479	8679873
308	Luis Hernan Lopez Torres	17-TAM/C-OPB-J-126-03	467035	8624140
309	María Estela Perdiz Valera	17-TAM/C-OPB-J-128-03	460952	8677241
310	Paulino Roca Guerra	17-TAM/C-OPB-J-130-03	501846	8665949
311	Juan Bautista Uscamayta Huilca	17-TAM/C-OPB-J-138-03	469874	8670575
312	Edelmira Flores De Vela	17-TAM/C-OPB-J-143-03	500319	8661008
313	Alfredo Gonzales Romero	17-TAM/C-OPB-J-144-03	479966	8680332

ID	Concessioner's Name	Contract Code	X	Y
314	Cecilio Reategui Aguirre	17-TAM/C-OPB-J-151-03	476481	8664889
315	Cecilia Cacuna Racua	17-TAM/C-OPB-J-152-03	472789	8683323
316	Alipio Acha Calla	17-TAM/C-OPB-J-153-03	471803	8680587
317	Carlos Aguilar Huaman	17-TAM/C-OPB-J-158-03	499855	8672037
318	Margarita Azucena Morales Zegarra	17-TAM/C-OPB-J-162-02	444324	8630814
319	Pablo Alegre Usca	17-TAM/C-OPB-J-162-03	498536	8677275
320	Margarita Venilda Rodriguez Benites	17-TAM/C-OPB-J-165-02	495546	8649555
321	Samuel Huamani Aranguri	17-TAM/C-OPB-J-167-02	489078	8639490
322	Pacifico Ferro Capa	17-TAM/C-OPB-J-168-02	503139	8650450
323	Zoila Norma Racua Guerra	17-TAM/C-OPB-J-169-03	461896	8657227
324	Rene Florencio Vargas Pineda	17-TAM/C-OPB-J-170-02	496010	8652254
325	Aureliano Francisco Donaires Orosco	17-TAM/C-OPB-J-172-02	420015	8609284
326	Silverio Quispe Ttupa	17-TAM/C-OPB-J-176-03	474158	8656687
327	Carlos Narciso Moreno Fuller	17-TAM/C-OPB-J-179-02	467332	8662841
328	Benito Escalante Quispe	17-TAM/C-OPB-J-179-03	476625	8648953
329	Agapito Delgado Cruz	17-TAM/C-OPB-J-180-03	460435	8635025
330	Benilde Pacherrres Salazar	17-TAM/C-OPB-J-184-02	422687	8652332
331	María Carmen Abarca Choque	17-TAM/C-OPB-J-189-03	452987	8624693
332	Maximo Loayza Benites	17-TAM/C-OPB-J-190-03	472587	8667592
333	Anselmo Racua Mariche	17-TAM/C-OPB-J-196-03	485444	8642345
334	Federico Barrientos Martinez	17-TAM/C-OPB-J-197-03	460134	8638436
335	Bernardo Flores Pereira	17-TAM/C-OPB-J-204-03	435804	8660520
336	Justo Montaña Avila	17-TAM/C-OPB-J-205-03	512348	8654978
337	José Oswaldo Saavedra Alvarado	17-TAM/C-OPB-J-209-03	437628	8659307
338	Juan De La Cruz Cusihuaman Condori	17-TAM/C-OPB-J-210-03	490512	8670454
339	Julian Condori Atamari	17-TAM/C-OPB-J-215-03	436263	8635819
340	Wilfredo Ahuanari Patiño	17-TAM/C-OPB-J-219-03	495663	8672879
341	Luciano Mamani Perez	17-TAM/C-OPB-J-220-03	492359	8669627
342	Moises Gutierrez Galicia	17-TAM/C-OPB-J-221-03	454327	8667888

ID	Concessioner's Name	Contract Code	X	Y
343	Pilar Mandujano Baca	17-TAM/C-OPB-J-224-03	405297	8652269
344	José Flores Pereyra	17-TAM/C-OPB-J-233-03	504366	8674014
345	Héctor Pautre Miashiro	17-TAM/C-OPB-J-240-03	442893	8640411
346	Leonardo Sanchez Pinedo	17-TAM/C-OPB-J-248-03	451643	8671117
347	Gueisa Gonzales De Rodriguez	17-TAM/C-OPB-J-250-03	483663	8667047
348	Saturnino Solis Muñoz	17-TAM/C-OPB-J-251-03	448077	8667241
349	Teofilo Pedraza Ariza	17-TAM/C-OPB-J-254-03	482895	8661489
350	Cirilo Torres Ttito	17-TAM/C-OPB-J-256-03	488154	8643470
351	Francisco Mamani Condori	17-TAM/C-OPB-J-258-03	513792	8661428
352	Igidio Mamani Ccorimanya	17-TAM/C-OPB-J-263-03	494932	8675551
353	Juan Huanuire Econema	17-TAM/C-OPB-J-265-03	491413	8677466
354	Elvira Yatto Tibubay	17-TAM/C-OPB-J-271-03	421931	8636905
355	Daniel Suclli Laura	17-TAM/C-OPB-J-272-03	450054	8681010
356	Serapio Condori Flores	17-TAM/C-OPB-J-276-03	525193	8631155
357	Silvia Apaza Hidalgo	17-TAM/C-OPB-J-285-03	464973	8668997
358	Teodocio Ancalle Llamoca	17-TAM/C-OPB-J-288-03	519639	8649827
359	Blanca Luz Vargas Pashanaste	17-TAM/C-OPB-J-293-03	465958	8658105
360	Inely Mestanza Villaroel	17-TAM/C-OPB-J-297-03	428555	8642028
361	Abel Galindo Izquierdo	17-TAM/C-OPB-J-299-03	453456	8643770
362	Felicitas Ramirez Surco	17-TAM/C-OPB-J-302-03	485043	8657110
363	Nora Esperanza Belluma Huanuire	17-TAM/C-OPB-J-306-03	412323	8661656
364	Jesús Chavez Vargas	17-TAM/C-OPB-J-309-03	486231	8644480
365	Juan Onesimo Ayerbes Ohuichi	17-TAM/C-OPB-J-310-03	495458	8679085
366	Dionisia Ccorahua De Zapana	17-TAM/C-OPB-J-311-03	480857	8644109
367	Hermelinda Argandoña Piña	17-TAM/C-OPB-J-317-03	482009	8676564
368	Julio Hurtado Garay	17-TAM/C-OPB-J-319-03	489520	8656473
369	Hernancia Rodriguez Flores - Transferencia	17-TAM/C-OPB-J-321-03	487781	8676296
370	Miguel Jorge Zevallos Narvaes	17-TAM/C-OPB-J-325-03	464539	8681536
371	Vicencio Yaricahua Nieto/ María Eduvilda	17-TAM/C-OPB-J-331-03	522778	8636245

ID	Concessioner's Name	Contract Code	X	Y
372	Dionisio Lima Armuto	17-TAM/C-OPB-J-338-03	455867	8671572
373	Ynocencio Bacilio Huaman	17-TAM/C-OPB-J-346-03	486617	8642168
374	Agueda Pacherras Salazar	17-TAM/C-OPB-J-348-03	488446	8640714
375	Daniel Idme Guetierrez	17-TAM/C-OPB-J-349-03	490315	8671215
376	Pablo Callo Condori	17-TAM/C-OPB-J-353-03	478512	8651669
377	Angel Fuentes Yupanqui	17-TAM/C-OPB-J-382-03	502439	8654280
378	Alipio Arnolio Puma Checalla	17-TAH/C-OPB-A-001-08	467443	8695559
379	Delfin Hugo Mejia Rivera	17-TAH/C-OPB-A-002-05	491873	8693043
380	Lebana Olivia Quispe Sueros	17-TAH/C-OPB-A-037-08	489867	8677227
381	Gabriela Rossana Parillo Quispe	17-TAH/C-OPB-A-050-08	409750	8701500
382	Valentín Parrillo Yerba	17-TAH/C-OPB-A-118-04	453400	8696547
383	Cesar Delgado Andia	17-TAH/C-OPB-J-114-04	464753	8726609
384	Teobaldo Aristides Reategui Trigos	17-TAM/C-OPB-A-004-08	475131	8667270
385	Maribel Yeni Aparicio Carpio	17-TAM/C-OPB-A-006-08	428209	8673784
386	Hugo Mamani Chavez	17-TAM/C-OPB-A-019-07	493239	8664897
387	Wilder Reategui Camargo	17-TAM/C-OPB-A-032-06	409495	8622441
388	Agapito Pacco Barrientos	17-TAM/C-OPB-A-036-06	437366	8638417
389	Jose Manuel Corahua Quispe	17-TAM/C-OPB-A-040-07	412173	8613865
390	Casimira Huaman De Mishisaka	17-TAM/C-OPB-A-041-06	479519	8662682
391	Alcibiades Canelos Yumbo	17-TAM/C-OPB-A-079-07	424607	8626348
392	Percy Humberto Espirilla Condo	17-TAM/C-OPB-A-121-04	490063	8673820
393	Isabel Tejada Aguirre	17-TAM/C-OPB-A-159-04	469592	8650632
394	Honorato Pacamia Guerra	17-TAM/C-OPB-A-187-04	458488	8670200
395	Facundo Cahuantico Cahuantico	17-TAM/C-OPB-J-022-03	480253	8668066
396	Felix Condori Taina	17-TAM/C-OPB-J-030-02	503482	8677015
397	Maria Cristina Loayza Valeriano	17-TAM/C-OPB-J-035-04	443661	8686685
398	Angel Bustamante Huallpayunca	17-TAM/C-OPB-J-086-03	495896	8644375
399	Juan Emilio Barriga Vissa	17-TAM/C-OPB-J-105-03	444648	8647164
400	Juan Gualberto Condori Sullo	17-TAM/C-OPB-J-137-03	462779	8672008

ID	Concessioner's Name	Contract Code	X	Y
401	Francisco Vargas Puma	17-TAM/C-OPB-J-208-03	467914	8669162
402	Lucinda Novoa De Romero	17-TAM/C-OPB-J-243-03	477802	8679257
403	Hernan Jimenes Llanos	17-TAM/C-OPB-J-262-03	482323	8656102
404	Juan Reyner Mamani Loayza	GOREMAD-GGR-PRMRFFS-DER-TAH/C-OPB-024-11	444653	8698383
405	Wilder Marave Rodriguez	GOREMAD-GGR-PRMRFFS-DER-TAH/C-OPB-025-11	438415	8711566

6.2 Appendix 2: Digital Process of Images in the ZEE

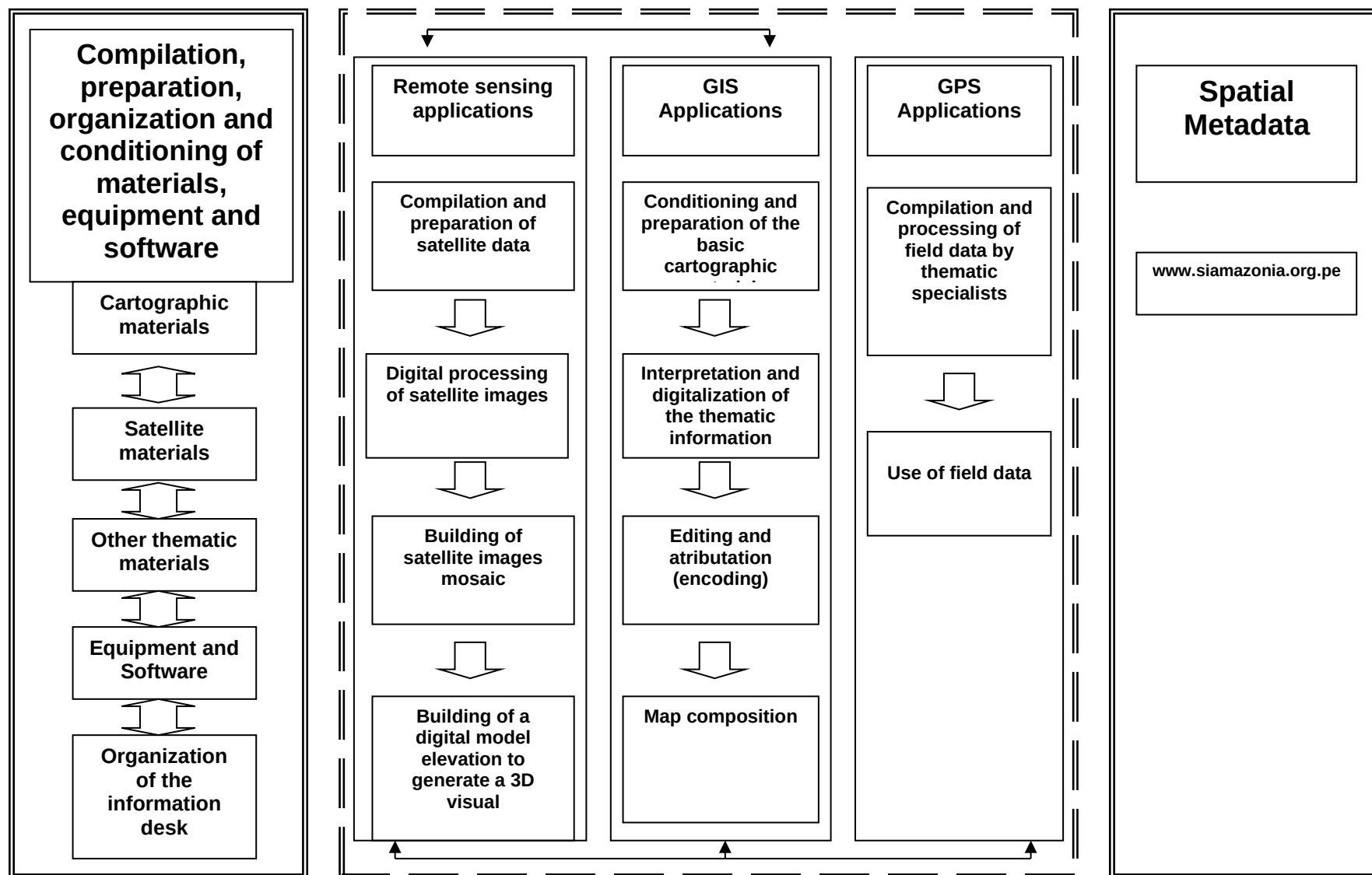


Figure 6.1. Digital Process of Images in the ZEE

6.3 Appendix 3: Crammer's Test for the Baseline Scenario (N°2)

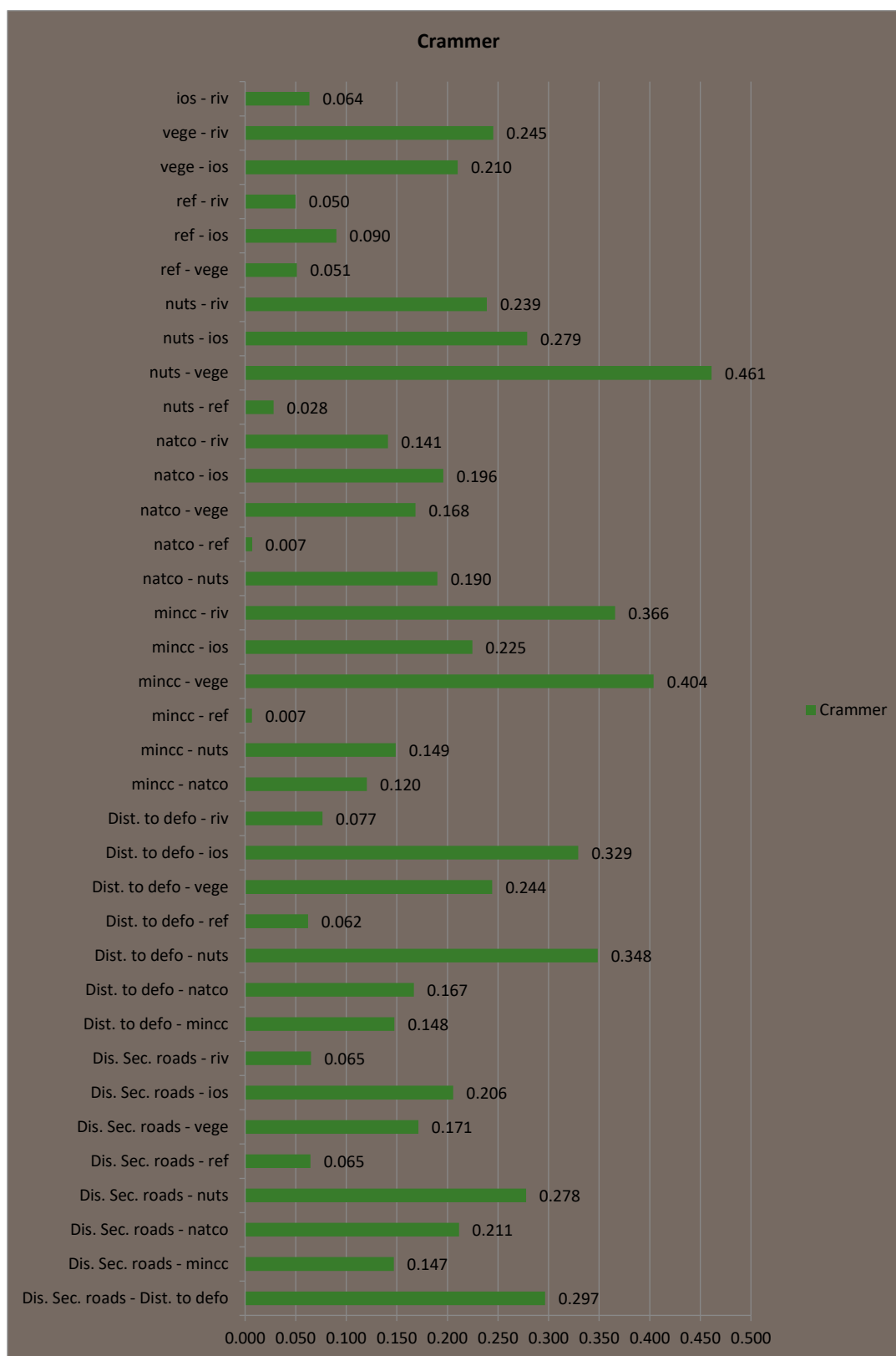
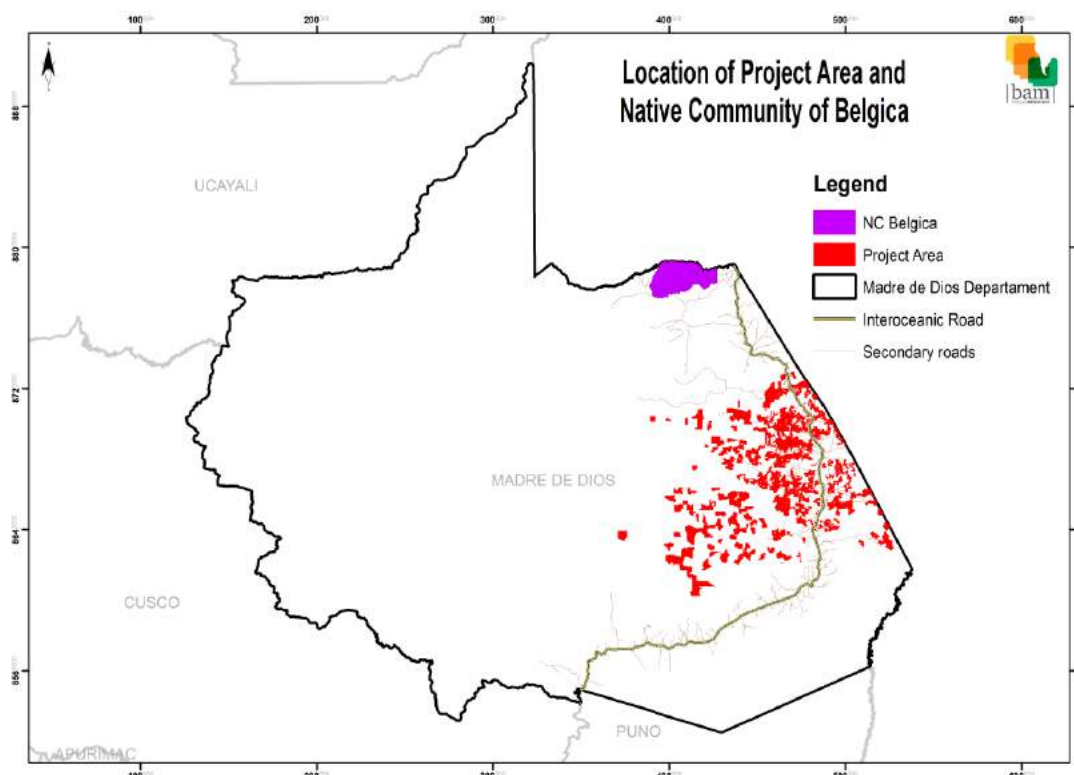


Figure 6.2. Crammer's Test for the Baseline Scenario (N°2)

6.4 Appendix 4: Significant Test for the Carbon Inventory Results of Native Community of Belgica

The Native Community of Belgica is located in the northeast part of the Department of Madre de Dios, close to the Project Area.

Map 6.1. Location of the Project Area and the Native community of Belgica



Source: Compiled by author

The National Environment Fund (FONAM) carried out the Carbon inventory developed in Belgica in 2010, and like us, they used the Forest Map of the Economic Ecological Zoning (ZEE) made by the IIAP as a basis for their area stratification.

In the area of Belgica, 14 forest types were found, and grouped according to their floristic, physiographic and flood criteria into 7 different strata (See Table 6.2).

Table 6.2. Simplification of forest types units in Native Community of Belgica

Initial Code	ZEE Forest Type	Area (Ha)	Final Code
BPTbi	Low flooded terraces with bamboo (paca) forest	7 104.84	BTI
BTbi	Low flood terrace forest	116.24	
BTm	Mid terrace forest	194.59	BT
BtaS	High terraces forest with <i>Shiringa</i> stands	4 343.53	
BCb	Low hills forest	8 710.14	BCb
BCbS	Low hills forest with <i>Shiringa</i> stands	330.40	
BPTm	Mid terrace with bamboo (paca) forest	145.38	BPT

BPTa	High terrace with bamboo (paca) forest	18 124.52	
BPCb	Low hills with bamboo (paca) forest	71 693.46	BPCb
BPCbS	Low hills with bamboo (paca) forest and <i>Shiringa</i> stands	2 871.96	
Ptbi	Bamboos of low flooded terraces	1 340.32	P
Pta	Bamboos of high terraces	2 162.58	
PCb	Bamboos of low hills	2 433.15	
Ai	Intervened Areas – Deforestation	15 020.10	NB
	Water bodies	456.94	
TOTAL AREA (HA)		135,048.14	

Source: Compiled by author

In the Castañeros REDD Project case, the Forest Map of ZEE was used as well, and the simplified stratification is similar (Table 6, page 18) to the one used in the Belgica native community.

The results from the Carbon Inventory made in the Native Community of Belgica were analyzed to see the significance between the Carbon Pools considered. The Carbon Stock results obtained are shown in the following table.

Table 6.3. Tones of CO₂ per hectare per carbon pool in the Native Community of Belgica

Forest Strata	Above-ground tree biomass	Below-ground tree biomass	Above-ground non tree biomass	Litter	Dead wood	Area (ha)
BCB	404.3	97	2.5	9.7	1.7	9,040.54
BPCB	397.2	95.3	4	8.1	4.2	74,565.42
BPT	325.2	78	4.9	8.3	1.8	18,269.90
BT	530.2	127.2	3.6	11.4	5	4,538.12
BTI	406.2	97.5	2.9	8.8	2.7	7,221.08
P	393	94.3				5,936.05
Total t CO ₂ /ha	392.12	94.08	3.74	8.02	3.38	501.33

Source: Compiled by author

Relative contributions of the project decrease of carbon stocks by sources

The relative contributions of the carbon pools were estimated using the equation (IPCC 2003, Eq. 5.4.1):

$$RC_{E_i} = \frac{E_i}{\sum_{i=1}^I E_i}$$

Where:

- RC_{E_i} Relative contribution of each source to the sum of project and leakage carbon stocks
- E_i Carbon stocks by sources
- i Index for individual sources of project and leakage stocks

Table 6.4. Relative contributions analysis per Carbon pool

Carbon Pools	Relative contribution	RCEi (%)	Rank	Sum of RCEi (%)
Above-ground tree biomass	0.78	78	5	0.78
Below-ground tree biomass	0.19	19	4	0.97
Litter	0.02	2	3	
Above-ground non tree biomass	0.01	1	2	
Dead wood	0.01	1	1	

Source: Compiled by author

The sum of the relative contributions is completed at the Belowground tree biomass pool (with 0.97). The carbon stocks in the last three pools are insignificant (less than 5% of the total carbon stocks) and ought to be excluded according to the REDD-MF and CP-AB modules.

This result is considered relevant to the Castañeros REDD Project, and because of the likeness in both areas, the last three pools were not included in the project's baseline.

6.5 Appendix 5: Consultation process

Table 6.5. Consultation process

Consultation process with Brazil nut stakeholders of Madre de Dios – REDD Brazil Nut Farmers Project				
N	Workshop / meeting	Participants	Date	Place
1	Meeting with FEDECAM leaders. Coordination and planning of the consultation.	14 Brazil nut farmers (3 women), leaders of Brazil nut farmers associations	Monday, July 13 th , 2009	Puerto Maldonado
2	Meeting with FEDECAM. Presentation of the REDD Brazil nut Farmers Project.	Board of Directors of the FEPROCAMD	Tuesday, July 14 th , 2009	Puerto Maldonado
3	Meeting with Brazil nut farmers of Alto Malecon San Carlos and Varsovia	28 Brazil nut farmers (5 women)	Sunday, July 26 th , 2009	Community center of San Carlos town
4	Meeting with Brazil nut farmers of Planchon	10 Brazil nut farmers (2 women)	Sunday, August 2 nd , 2009	Amphitheatre of Las Piedras municipality, Planchon town
5	Meeting with Brazil nut farmers of Alto Malecon San Carlos and Varsovia	18 Brazil nut farmers (3 women)	Sunday, August 2 nd , 2009	Community center of San Carlos town
6	Meeting with Brazil nut farmers of Pariamanu.	14 Brazil nut farmers (3 women)	Monday, August 3 rd , 2009	Pump house of Madre de Dios. Puerto Maldonado
7	Meeting with Brazil nut farmers of Sabaluyoc	11 Brazil nut farmers (2 women)	Sunday, August 30 th , 2009	House of a settler of Sabaluyoc town
8	Participation in Assembly with Brazil nut farmers. Election of FEPROCAMD Board of Directors.	42 Brazil nut farmers (6 women) representatives of different Brazil nut farmers associations	Saturday, September 12 th , 2009	Puerto Maldonado
9	Assembly between Brazil nut farmers of Alerta and FEPROCAMD. Presentation of the REDD Brazil nut Farmers Project.	36 Brazil nut farmers (12 women) and Board of Directors of the FEPROCAMD	Saturday, September 26 th , 2009	Premises of ECOMUSA, Alerta town
10	Presentation of the REDD Brazil nut Farmers Project to leaders of the Brazil nut sectors.	56 Brazil nut farmers' leaders from different sectors and associations.	Wednesday, October 07 th , 2009	Amaru Mayu Hotel, Puerto Maldonado.
11	Presentation of the REDD Brazil nut Farmers Project to Brazil nut farmers of Monterrey. Revision of the agreement of carbon rights transfer.	14 Brazil nut farmers (7 women)	Saturday, November 21 st , 2009	Community center of Monterrey
12	Meeting with Brazil nut farmers of Boca Pariamarca and Ashipal. Presentation of the REDD Brazil nut Farmers Project.	7 Brazil nut farmers (3 women)	Saturday, 21 st , 2009	House of a Brazil nut farmer in Boca Ashipal
13	Presentation of the REDD Brazil nut Farmers Project and absolution of consultations to Brazil nut farmers of Alegria	12 Brazil nut farmers (4 women)	Sunday, November 22 nd , 2009	Community center, Alegria town
14	Meeting with Brazil nut farmers of Sabaluyoc	9 Brazil nut farmers (2 women)	Saturday, November 28 th , 2009	Office of Bosques Amazonicos. Puerto Maldonado

Consultation process with Brazil nut stakeholders of Madre de Dios – REDD Brazil Nut Farmers Project				
N	Workshop / meeting	Participants	Date	Place
15	Exposition of the REDD Brazil nut Farmers Project to Brazil nut farmers of La Novia	9 Brazil nut farmers (5 women)	Friday, December 4 th , 2009	Community center of La Novia
16	Presentation of the REDD Brazil nut Farmers Project to the Brazil nut farmers Association of Alerta	26 Brazil nut farmers (5 women)	Saturday, December 12 th , 2009	Premises of ECOMUSA, Alegria
17	Participation in the event organized by OSINFOR and CAMDE PERU. The REDD Brazil nut Farmers Project was disseminated.	38 Brazil nut farmers (9 women), representatives of the Forest Management of Madre de Dios and OSINFOR	Friday, June 4 th , 2010	Premises of CASAL SAC. Alegria town
18	Meeting with Brazil nut farmers of Shiringayoc	7 Brazil nut farmers (1 woman)	Sunday, June 6 th , 2010	Shiringayoc town
19	INFORMATIVE WORKSHOP ON PROGRESS AND RESOLUTION OF CONSULTATIONS REGARDING THE REDD PROJECT – Alerta town	32 Brazil nut farmers	Sunday, June 13 th , 2010	Premises of ECOMUSA, Alerta town
20	INFORMATIVE WORKSHOP ON PROGRESS AND RESOLUTION OF CONSULTATIONS REGARDING THE REDD PROJECT – Alegria town	53 Brazil nut farmers	Sunday, June 20 th , 2010	Premises of ECOMUSA, Alegria town
21	INFORMATIVE WORKSHOP ON PROGRESS AND RESOLUTION OF CONSULTATIONS REGARDING THE REDD PROJECT – Brazil nut farmers of Pariamanu.	11 Brazil nut farmers	Saturday, July 3 rd , 2010	Premises of BAM in Puerto Maldonado
22	INFORMATIVE WORKSHOP ON PROGRESS AND RESOLUTION OF CONSULTATIONS REGARDING THE REDD PROJECT – Planchon Sector	21 Brazil nut farmers (2 women)	Friday, July 09 th , 2010	Amphitheatre of Las Piedras municipality, Planchon town
23	FIRST MEETING OF REDD BRAZIL NUT FARMERS PROJECT PARTNERS, taken place in Puerto Maldonado city to show the progress of the project and the business plan of the Brazil nut company of the Project, property of all partners.	400 Brazil nut farmers, representatives of BAM, representatives of the FEPROCAMD, local authorities and MINAM.	Sunday, July 18 th , 2010	Premises of Cabaña Tropical in Puerto Maldonado
24	TRAINING WORKSHOP "Agreement of Brazil nut Concessions, Liabilities and Responsibilities", Technical assistance for the elaboration of AOP and presentation of OSINFOR to Brazil nut farmers – Alerta town	39 Brazil nut farmers	Saturday, August 14 th , 2010	Premises of ECOMUSA – Alerta town
25	TRAINING WORKSHOP "Agreement of Brazil nut Concessions, Liabilities and Responsibilities", Technical assistance for the elaboration of AOP and presentation of OSINFOR to Brazil nut farmers – Mavila town	27 Brazil nut farmers	Friday, August 20 th , 2010	Community center, Mavila town
26	TRAINING WORKSHOP "Agreement of Brazil nut Concessions, Liabilities and Responsibilities", Technical assistance for the elaboration of AOP and presentation of OSINFOR to Brazil nut farmers – Planchon town	33 Brazil nut farmers	Thursday, August 26 th , 2010	Amphitheatre of Las Piedras municipality, Planchon town

Consultation process with Brazil nut stakeholders of Madre de Dios – REDD Brazil Nut Farmers Project				
N	Workshop / meeting	Participants	Date	Place
27	TRAINING WORKSHOP “Agreement of Brazil nut Concessions, Liabilities and Responsibilities”, Technical assistance for the elaboration of AOP and presentation of OSINFOR to Brazil nut farmers – Alto Malecon San Carlos and Varsovia	33 Brazil nut farmers	Saturday, August 28 th , 2010	Amphitheatre of Las Piedras municipality, San Carlos town

REUNION DE CONSULTA DEL PROYECTO REDD CASTAÑEROS

Coordinación con la FEDECAMD, 13 de Julio del 2009



Participación de dirigentes castañeros de la FEDECAMD en el proyecto REDD Castañeros



Exposición acerca del proyecto, a cargo de la representante de CAMDE PERU

REUNION CON REPRESENTANTES DE BASES CASTAÑERAS Y DE LA EMPRESA BAM

Inicio de negociaciones para la ejecución del Proyecto REDD Castaño, 14 de Julio de 2009



Presentación y explicación del Proyecto REDD a desarrollar con los castañeros de MDD



Firma del Memorándum de Entendimiento entre representante de la FEDECAMD y la empresa BAM



Representantes de bases castañeras y de la empresa SFM-BAM, luego de la firma del Memorándum de entendimiento

Figure 6.3. Consultation process I

REUNION DE CONSULTA EN EL SECTOR DE SAN CARLOS

Presentación del Proyecto REDD Castaño, 26 de Julio del 2009



**Presentación del Proyecto REDD Castaño
a cargo de representante de CAMDE PERU**



**Participación de castañeros del Sector de
San Carlos interesados en el proyecto**

REUNION DE CONSULTA EN EL SECTOR DE VARSOVIA

Presentación del Proyecto REDD Castaños, 02 de Agosto del 2009



**Participación de castañeros del sector de
Varsovia interesados en el proyecto**



**Exposición del proyecto REDD Castaños a
cargo del presidente de la FEPROCAMD**

Figure 6.4. Consultation process II

REUNION DE CONSULTA EN EL SECTOR DE PLANCHON

Presentación del Proyecto REDD Castañeros, 02 De Agosto De 2009



Participación de dirigente castañeros del Sector de Planchón interesados en el proyecto



Exposición del proyecto REDD Castañero por parte de representante de CAMDE PERU

REUNION DE CONSULTA CON CASTAÑEROS DEL SECTOR PARIAMANU

Exposición del Proyecto REDD Castañeros, 03 De Agosto De 2009



Participación de castañeros interesados en el proyecto



Explicación de los beneficios y requisitos de participación en el proyecto REDD

Figure 6.5. Consultation process III

PASANTIA DE REPRESENTANTES CASTAÑEROS PARA VISITAR PROYECTO REDD DE BAM

Pucallpa, 16-20 de Agosto de 2009



**Visita de los representantes castañeros a la
plantación del proyecto REDD Campo Verde
de Bosques Amazónicos**



**Visita al vivero forestal del proyecto REDD
Campo Verde de BAM**



**Vista panorámica de los viveros del fundo
Bosques Amazónicos**



**Explicación de los viveros manejados por el
proyecto REDD BAM en Pucallpa**



**Reunión para socializar el plan de acción del
proyecto REDD Castañero de MDD**



**Explicación del plan de acción del proyecto
REDD Castañero**

Figure 6.6. Consultation process IV

REUNION DE CONSULTA EN EL SECTOR DE SABALUYOC
Exposición del Proyecto REDD Castañeros, 30 de Agosto de 2009



Participación de castañeros de Sabaluyoc interesados en el proyecto REDD



Explicación sobre el proyecto REDD a cargo del presidente de la FEPROCAMD

Figure 6.7. Consultation process V

ASAMBLEA DE LA FEDERACION DE CASTAÑEROS DE MADRE DE DIOS - FEPROCAMD

Puerto Maldonado-Hotel Amarumayo, 12 de Setiembre de 2009



**Reunión de elección del Consejo Directivo de la nueva
Federación de Castañeros de Madre de Dios**



**Dirigentes castañeros de los diferentes
sectores del departamento**

REUNION DE CONSULTA EN EL SECTOR ALERTA

Exposición del Proyecto REDD Castañeros, 26 de Setiembre de 2009



**Participación de castañeros de Alerta
interesados en el Proyecto REDD**



**Explicación de la participación de la
FEPROCAMD en el proyecto REDD**

Figure 6.8. Consultation process VI

REUNION DE CONSULTA EN EL SECTOR LA NOVIA

Exposición del Proyecto REDD Castañero, 03 de Octubre de 2009



Explicación del proyecto REDD a los castañeros del sector de la Novia, a cargo de representante de CAMDE PERU



Socialización y firma de los contratos de cesión con los castañeros de la Novia

ASAMBLEA AMPLIADA DE CONSULTA CON DIRIGENTES DE ASOCIACIONES DE CASTAÑEROS

Exposición del Proyecto REDD Castañero, 07 de Octubre de 2009



Explicación del proyecto REDD por parte del gerente general de BAM ante dirigentes de castañeros



Participación de dirigentes de asociaciones de castañeros de diferentes sectores de Madre de Dios

Figure 6.9. Consultation process VII

REUNION DE CONSULTA EN EL SECTOR ALEGRIA

Sector de Alegría, 08 de Octubre de 2009



Castañeros del sector Alegría interesados en el proyecto REDD



Presentación de los involucrados en el proyecto: BAM, FEPROCAMD Y CAMDE PERU

REUNION DE CONSULTA EN EL SECTOR DE ALERTA

Sector de Alerta, 08 de Octubre de 2009



Representantes de BAM explican el proyecto REDD a los castañeros del sector Alerta



Castañeros de Alerta participan en proceso de consulta

REUNION DE CONSULTA EN EL SECTOR DE LA NOVIA

Sector de Mavila, 08 de Octubre de 2009



Representantes de BAM, FEPROCAMD y CAMDE PERU explica proyecto REDD a castañeros de Mavila



Representantes absuelven consultas del proyecto REDD Castañeros

Figure 6.10. Consultation process VIII

REUNION DE CONSULTA EN EL SECTOR MONTERREY

Exposición del Proyecto REDD Castañeros, 21 de Noviembre de 2009



**Castañeros del sector Monterrey
interesados en el proyecto REDD**



**Revisión de contratos de cesión de derechos
del proyecto REDD Castañeros**

REUNION DE CONSULTA EN EL SECTOR PARIAMANU

Sector de Boca Paríamarca y Ashipal, 21 y 22 de Noviembre de 2009



**Explicación de Proyecto REDD a cargo de
representante de la FEPROCAMD**



**Castañeros participante de Boca
Paríamarca y Ashipal**

REUNION DE CONSULTA EN EL SECTOR DE ALERTA

Sector de Alerta, 08 de Octubre de 2009



Figure 6.11. Consultation process IX

REUNION DE CONSULTA EN EL SECTOR DE ALEGRIA

Exposición del Proyecto REDD Castañero, 22 de Noviembre de 2009



Explicación de Proyecto REDD a cargo de representante de Bosques Amazónicos



Participación de castañeros del sector de Alegría

REUNION DE CONSULTA CON EL SECTOR DE SABALUYOC

Exposición del Proyecto REDD Castañero, 28 de Noviembre de 2009



Explicación de Proyecto REDD a cargo de representante de la FEPROCAMD



Participación de castañeros del sector de Sabaluyoc

REUNION DE CONSULTA EN EL SECTOR DE LA NOVIA

Exposición del Proyecto REDD Castañero ,04 de Diciembre de 2009



Figure 6.12. Consultation process X

REUNION DE CONSULTA EN EL SECTOR DE ALERTA

Exposición del Proyecto REDD Castaño ,12 de Diciembre de 2009



Consejo Directivo de la Asociación de Castañeros de Alerta



Participación de dirigente castaño de Alerta

PARTICIPACION EN DIFUSION FORESTAL CASTAÑERA EN EL SECTOR DE ALEGRIA

Exposición del Proyecto REDD Castaño ,04 de Junio de 2009



REUNION DE CONSULTA EN EL SECTOR DE PLANCHON

Exposición del Proyecto REDD Castaño ,09 de Junio de 2010



Figure 6.13. Consultation process XI

6.6 Appendix 6: Public dissemination of the REDD project

Table 6.6. Public dissemination of the REDD project

Process of communication and dissemination of the brazil nut farmers project of Madre de Dios					
N	Communication activity	Quantity	Public	Date	Place
1	MADRE DE DIOS RADIO, 1 p.m. newscast: Explanatory interview regarding the Project to the General Manager and Technical Manager of BAM.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Monday, January 11 th , 2010	Puerto Maldonado
2	“EI JAQUE” NEWSPAPER: Explanatory interview regarding the Project to the General Manager of BAM.	2 pages	Brazil nut farmers of Madre de Dios and institutions	Monday, January 11 th , 2010	Puerto Maldonado
3	PROMOTIONAL SPOTS of the REDD BRAZIL NUT FARMERS PROJECT in Radio Madre de Dios, La Exitosa and Radio Sinfonia.	172 spots during one month	Brazil nut farmers of Madre de Dios and institutions	Monday, January 11 th , 2010	Puerto Maldonado
4	H VISION TV, newscast “Ver para creer” (<i>seeing then believing</i>): Explanatory interview regarding the Project to the General Manager of BAM.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, January 12 th , 2010	Puerto Maldonado
5	H VISION TV, newscast “Ver para creer” (<i>seeing then believing</i>): Interview to the President of FEPROCAMD regarding the position of the Brazil nut farmers towards the project.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, January 12 th , 2010	Puerto Maldonado
6	H VISION TV, newscast “Realities”: Explanatory interview regarding the Project to the General Manager of BAM.	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, January 12 th , 2010	Puerto Maldonado
7	LA EXITOSA RADIO, newscast “La Voz de Madre de Dios” (<i>the voice of Madre de Dios</i>): Explanatory interview regarding the Project to the General Manager of BAM.	30 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, January 12 th , 2010	Puerto Maldonado
8	H VISION TV, Magazine Program “LA PALABRA” (<i>the word</i>): Explanatory interview regarding the Project to the general manager of BAM	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, January 12 th , 2010	Puerto Maldonado
9	H VISION TV, regional newscast “INTERCAMBIO” (<i>exchange</i>): Explanatory interview regarding the Project to the general manager of BAM	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, January 12 th , 2010	Puerto Maldonado
10	SINFONÍA RADIO, newscast “La Voz Dirigencial” (<i>the managerial voice</i>): Explanatory interview regarding the Project to the General Manager of BAM	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Wednesday, January 13 th , 2010	Puerto Maldonado

Process of communication and dissemination of the brazil nut farmers project of Madre de Dios					
N	Communication activity	Quantity	Public	Date	Place
11	H VISION TV, prime-time newscast "Tiempo de Cambio" (<i>time for a change</i>): Explanatory interview regarding the Project to the General Manager of BAM	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Wednesday, January 13 th , 2010	Puerto Maldonado
12	H VISION TV, prime-time newscast "Tiempo de Cambio" (<i>time for a change</i>): Explanatory interview regarding the Project to the General Manager of BAM.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Wednesday, January 13 th , 2010	Puerto Maldonado
13	Publishing in GESTIÓN Newspaper: The Ecologic gold. Article that suggests the projects of BOSQUES AMAZÓNICOS as sustainable alternatives to the development of the Amazon, with regard to gold extraction.	30 thousand	At national level	Monday, May 10 th , 2010	At national level
14	Participation in the event organized by the Forestry Engineering Faculty of the UNAMAD	20 minutes	Professors and students	Friday, June 25 th , 2010	University population
15	Printing of the informative and explanatory graphic material (Triptych) regarding the REDD Brazil nut Farmers Project: what are carbon bonds, the agreements of rights transfer, the benefits of the project.	1 thousand	Brazil nut farmers of Madre de Dios and institutions	Thursday, July 1 st , 2010	Madre de Dios
16	GRAPHIC MATERIAL: Poster of the First Meeting of REDD Brazil nut Farmers Project Partners	200 units	Brazil nut farmers of Madre de Dios and institutions	Thursday, July 1 st , 2010	Puerto Maldonado
17	GRAPHIC MATERIAL: Banner of the First Meeting of REDD Brazil nut Farmers Project Partners	10 units	Brazil nut farmers of Madre de Dios and institutions	Thursday, July 1 st , 2010	Puerto Maldonado
18	GRAPHIC MATERIAL: Flyer of the First Meeting of REDD Brazil nut Farmers Project Partners	2 thousand	Brazil nut farmers of Madre de Dios and institutions	Thursday, July 1 st , 2010	Puerto Maldonado
19	INFORMATIVE BULLETIN: of FEPROCAMD with information for all members of such institution.	2 thousand	Brazil nut farmers of Madre de Dios and institutions	Thursday, July 1 st , 2010	Puerto Maldonado
20	PRENSA REAL TV PROGRAM: Interview to Biologist Juan Carlos Flores, Regional Manager of BAM to explain about the Brazil nut in Madre de Dios and the REDD Brazil nut Farmers Project.	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Monday, July 12 th , 2010	Community center of San Carlos town.
20	PRENSA REAL TV PROGRAM: Interview to Ant. Marco Villegas, Social Specialist of BAM, to explain the process of consultation and the social problematic of the Brazil nut farmers within the framework of the REDD Brazil nut Farmers Project.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Monday, July 12 th , 2010	Community center of San Carlos town.

Process of communication and dissemination of the brazil nut farmers project of Madre de Dios					
N	Communication activity	Quantity	Public	Date	Place
21	PRENSA REAL TV PROGRAM: Interview to Biologist Juan Carlos Flores, Regional Manager of BAM to explain about the Project and invite to the First Meeting of REDD Brazil nut Farmers Project Partners.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, July 13 th , 2010	Community center of San Carlos town.
22	PRENSA REAL TV PROGRAM: Interview to the President of FEPROCAMD, to comment about the favorable position of the Brazil nut farmers towards the REDD Brazil nut Farmers Project and invite all its affiliates to the FIRST MEETING OF REDD BRAZIL NUT FARMERS PROJECT PARTNERS.	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Tuesday, July 13 th , 2010	Community center of San Carlos town.
23	PRENSA REAL TV PROGRAM: Interview to the Technical Manager of BAM, to absolve doubts concerning the REDD Brazil nut Farmers Project and to explain about all the information which will be given in the FIRST MEETING OF REDD BRAZIL NUT FARMERS PROJECT PARTNERS.	20 minutes	Brazil nut farmers of Madre de Dios and institutions	Friday, July 16 th , 2010	Community center of San Carlos town.
24	LA EXITOSA RADIO: Interview to the President of FEPROCAMD concerning the Project and its perspectives and to invite to the First Meeting of REDD Brazil nut Farmers Project Partners.	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Friday, July 16 th , 2010	Puerto Maldonado
25	IDENTITY ARTICLES: T-shirts of the project given to all the Brazil nut farmers partners to promote the identity with it.	500 units	Brazil nut farmers of Madre de Dios	Sunday, July 18 th , 2010	Madre de Dios
26	DISSEMINATION FAIR: Dissemination stand of the REDD Brazil nut Farmers Project and identity of the Brazil nut in the region of Madre de Dios, within the framework of the Fair organized by the Ombudsman's Office	1 stand with 8 explanatory gigantographies	General population of Puerto Maldonado	Friday, July 23 th , 2010	Plaza Mayor (Main Square) of Puerto Maldonado
27	Reprinting of the informative and explanatory graphic material (Triptych) concerning the REDD Brazil nut Farmers Project: what are carbon bonds, the agreements of rights transfer, the benefits of the project.	2 thousand	Brazil nut farmers of Madre de Dios and institutions	Sunday, August 15 th , 2010	Madre de Dios
28	Publishing in GESTION Newspaper: Map for carbon quantification, its relation with the REDD projects. Article which comments the development experience in REDD of BOSQUES AMAZONICOS in Madre de Dios.	30 thousand	At national level	Tuesday, September 07 th , 2010	At national level
29	Publishing in CARETAS Magazine: Article in the supplement concerning the conservation of Forests, edited by the Environmental Ministry.	30 thousand	At national level	Thursday, September 09 th , 2010	At national level
30	LA EXITOSA RADIO: Interview to the president of FEPROCAMD concerning the Project and all paperwork that must be done by the Brazil nut farmers to accomplish with their commitment with the State.	15 minutes	Brazil nut farmers of Madre de Dios and institutions	Wednesday, September 15 th , 2010	Puerto Maldonado

Process of communication and dissemination of the brazil nut farmers project of Madre de Dios					
N	Communication activity	Quantity	Public	Date	Place
31	LA EXITOSA RADIO: Interview to William Moreno, Regional Coordinator of CAMDE PERU, NGO in charge to give support in the technical work to all the Brazil nut farmers partners of the REDD project, explaining about all the requirements and dates of attention to the Brazil nut farmers partners.	10 minutes	Brazil nut farmers of Madre de Dios and institutions	Wednesday, October 6 th , 2010	Puerto Maldonado

DIFUSION DEL PROYECTO REDD CASTAÑEROS EN EL SECTOR DE ALERTA

13 de Junio de 2010



EVENTO: PRIMER ENCUENTRO ANUAL DE SOCIOS DEL PROYECTO REDD CASTAÑEROS

Puerto Maldonado 18 de Julio de 2010



**DIFUSION
DEL
PROYECTO
REDD**



Figure 6.14. Public dissemination of the REDD Project I

DIFUSION DEL PROYECTO REDD CASTAÑEROS EN EL SECTOR DE MAVILA

20 de Agosto de 2010



Figure 6.15. Public dissemination of the REDD Project II

CASTAÑEROS EN EL SECTOR DE ALEGRIA

20 de Julio de 2010



DIFUSION DEL PROYECTO REDD CASTAÑEROS EN EL SECTOR DE ALERTA

14 de Agosto de 2010



Figure 6.16. Public dissemination of the REDD Project III

DIFUSION DEL PROYECTO REDD CASTAÑEROS EN EL SECTOR DE MAVILA

20 de Agosto de 2010



Figure 6.17. Public dissemination of the REDD Project IV

DIFUSION DEL PROYECTO REDD CASTAÑEROS EN EL SECTOR DE PLANCHON

26 de Agosto de 2010



Figure 6.18. Public dissemination of the REDD Project V

DIFUSION DEL PROYECTO REDD CASTAÑEROS EN EL SECTOR DE SAN CARLOS

28 de Agosto de 2010



Figure 6.19. Public dissemination of the REDD Project VI



Participación en Reunión para Difusión y Programación de Trabajos de Campo

LISTA DE ASISTENCIA

Beneficiarios: Castañeros de Alerta y anexos
Lugar: Salón de ECOMUSA - Alerta

Fecha: 13 de Junio del 2010
Hora: 10:00 a.m.

Nº	Nombres y Apellidos	Sector	DNI	Firma
1	Carmona Quispe Quispe	Alerta	04809183	[Firma]
2	Santiago Lopez Cueva	Alerta	10440120	[Firma]
3	MARTIN LAURA HERRERA	Alerta	03063346	[Firma]
4	MAXIMO CAHUANA	Alerta	09065324	[Firma]
5	Alberto Garcia Rojas	Alerta	05063536	[Firma]
6	Andalpa Huaco Manu	Shiringayoc	04811327	[Firma]
7	Angel R. Cuello Tapia	Shiringayoc	04819989	[Firma]
8	Plumante Cuello Chapin	Alerta	24696426	[Firma]
9	Gilberto Siquemuri Quena	ALERTA	05063278	[Firma]
10	ANA Jacinto Quispe	Alerta	94700494	[Firma]
11	Gonzalo Flores Castillejos	Alerta	04708266	[Firma]
12	Ignacio Nola Grifa	Alerta	05063291	[Firma]
13	Hilario Gifo Palla	Alerta	05063321	[Firma]
14	DAVID Grifa Rodriguez	Alerta	05063331	[Firma]

15	Eustaquio Pardo Pardo	Shiringayoc	04809112	[Firma]
16	Clemente Polanco Pardo	Sta. Maria	04812530	[Firma]
17	Walter Macocha Tapia	Alerta	04828101	[Firma]
18	Limber Macocha Nuaman	Alerta	46715996	[Firma]
19	Emilia Macocha Nola	Alerta	05063600	[Firma]
20	Eduardo Macocha Nola	Alerta	05063608	[Firma]
21	Manuel Huayhuata Tacerz	Shiringayoc	04808907	[Firma]
22	David Rodriguez Tacerz	Alerta	05063285	[Firma]
23	Valentin Barillo Yerba	Alerta	04826375	[Firma]
24	Regina Palla Dea	Alerta	05063347	[Firma]
25	Juan B. Palla B.	Alerta	04804458	[Firma]
26	Cesar Delgado Andia	Alerta		[Firma]
27	Alba Shyda Rodriguez	Alerta	05063255	[Firma]
28	Carlos Alberto Manuani Cahuana	ALERTA	02554929	[Firma]
29	Ricardo Tito Arasaize	Alerta	05063273	[Firma]
30	Hilario Gifo Palla	Alerta	05063321	[Firma]
31	Ignacio Nola Grifa	Alerta	05063291	[Firma]
32	DAVID Rodriguez Grifa	Alerta	05063331	[Firma]
33				
34				
35				
36				
37				
38				
39				
40				

Figure 6.20. Attendance list to hearings and consultations performed for the redd brazil nut concessioners project I



LISTA DE ASISTENCIA A REUNIÓN

Proyecto: "REDD CASTAÑERO"
Lugar: Centro Poblado de Novia
Fecha: 04 de Setiembre de 2010

N°	Nombres y Apellidos	Asociación	Cargo	Telefono	Firma
1	Hector PIZANGO N.	LA NOVA			<i>[Signature]</i>
2	OSWALDO BORDINI SATHERRIA	LA NOVA			<i>[Signature]</i>
3	ALFONSO ZAMBRANO TAPIA	LA NOVA			<i>[Signature]</i>
4	LUIS PIZANGO NOVI	LA NOVA			<i>[Signature]</i>
5	Ricardina Sutillana una ma	LA NOVA			<i>[Signature]</i>
6	Alejandrina Mendoza Cuenca	LA NOVA			<i>[Signature]</i>
7	Miguel Herbozo Reategui	LA NOVA			<i>[Signature]</i>
8	Magda Herbozo DE VARGAS	LA NOVA			<i>[Signature]</i>
9	Herencia Rodriguez Flores	LA NOVA			<i>[Signature]</i>
10	Miguel Torpán Gómez	LA NOVA			<i>[Signature]</i>
11	Braulio Valenciano	LA NOVA			<i>[Signature]</i>
12	Lorena Pizango N.	LA NOVA			<i>[Signature]</i>
13	Aliso Asimyr Sifit	LA NOVA			<i>[Signature]</i>
14	Martelina Cruz Pizarro	Nuevo Paecon			<i>[Signature]</i>
15					

Figure 6.21. Attendance list to hearings and consultations performed for the redd brazil nut concessioners project II



ecto: "SFM-BAM"
 ir: Centro Poblado alerta
 sa: 14 de agosto de 2010

Figure 6.22. Attendance list to hearings and consultations performed for the redd brazil nut concessioners project III



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Figure 6.24. Official bulletin of feprocamd. Number 01 July august 2010 II



Figure 6.25. Bulletin january 2021 I

Aliados estratégicos:
BP Gas Limited

En agosto de 2020, iniciamos una alianza estratégica con la empresa internacional BP, consolidando una venta record de 1700,000 créditos de carbono que asegura la ejecución del presupuesto de REDD+ Castañeros por los siguientes dos años.



Principales actividades realizadas en el mes:
Entrega de beneficios económicos a nuestros socios.

Desde el mes de diciembre venimos realizando la entrega de beneficios económicos a nuestros socios, en reconocimiento al compromiso demostrado por conservar los bosques de sus concesiones. A la fecha, hemos realizado la entrega de S/. 1,500 soles por persona a un total de 222 socios. Continuaremos con esta labor a lo largo del mes de febrero.

Durante las sesiones, generamos espacio para conversar sobre el proyecto, nuestra historia y planes a futuro. Asimismo, para tomar nota sobre los requerimientos y expectativas de nuestros socios a fin de dar apertura a la mejora constante.



Ordenamiento y linderamiento de las concesiones.

En enero iniciamos el proceso de linderamiento (demarcación de límites) de 48 concesiones pertenecientes al proyecto. Este proceso, fundamental para el correcto saneamiento de las áreas, está -en esta primera etapa- a cargo de la empresa Teledetections.



Acondicionamiento de la oficina y compra de equipos.

Realizamos el acondicionamiento de la oficina bajo las medidas sanitarias correspondientes a fin de atender a nuestros socios de manera eficiente y segura. Asimismo, compramos los equipos necesarios para la ejecución de las diferentes actividades del proyecto. La compra de activos continuará en febrero.

OFICINA

- Acondicionamiento e implementación del plan COVID - 19 para uso de oficinas.
- Señalización total del local.
- Compra de materiales de higiene.
- Uso obligatorio de implementos de bioseguridad: máscara facial, mascarilla, alcohol en gel.
- Monitoreo de temperatura y niveles de oxígeno.

EQUIPOS

- Materiales de oficina.
- Computadoras desktop.
- Impresoras.
- Proyector.
- Estabilizadores.
- Escritorios + sillas.
- Mesa de trabajo + sillas.
- Sillas para asambleas.




Proceso de verificación periodo 2017 - 2020 bajo el estándar VCS + re-validación del estándar CCB.

Iniciamos el proceso de verificación del proyecto bajo el estándar VCS (Verified Carbon Standard) para el periodo comprendido entre los años 2017 y 2020. Actualmente, el equipo técnico se encuentra realizando el Reporte de Monitoreo correspondiente.

Asimismo, iniciamos el proceso de re-validación del proyecto bajo el estándar CCB (Climate, Community and Biodiversity). El equipo técnico se encuentra realizando la definición de la línea base (comunidad + biodiversidad) y los análisis para el desarrollo del Documento de Proyecto CCB.




Equipo REDD+ Castañeros
Personal dedicado a la administración y gestión del proyecto

Eduardo Galindo (BAM)	Director regional BAM
Ronald Rojas (BAM)	Jefe de proyecto BAM
David Asturlina Huamantla	Coordinador social del proyecto
Raúl Andy Huanaco Huanca	Asesor legal
Walter Flores Casanova	Asesor técnico
Ronal Cisneros Castro	Comunicador social
Erner Racua Qulspe	Asistente administrativo y contable
Daisy Chávez Puma	Apoyo administrativo y limpieza
Fabiola Villanueva Paredes	Seguridad (L-V)
Douglas Vergara	Seguridad (S-D)
Luis Salas	

Soporte BAM

Jorge Torres	Asesor técnico carbono
Carlos Gameros	Desarrollador técnico
María Alejandra Cantuarias	Marketing
Alvaro Guerrero	Planeamiento financiero

Boletín mensual
Enero 2021







Si eres socio del proyecto y aún no has recibido los beneficios económicos correspondientes o si quieres ser parte de REDD+ Castañeros, por favor comunícate con la administración a los siguientes números:

+51 951 386 171
+51 964 102 622

Contáctate con nosotros:
info@bosques-amazonicos.com
facebook: Feprocamd Mdd

Nuevas oficinas: Av. Universitaria
Al lado de la Gerencia Forestal
ex Inrena, Puerto Maldonado



Bam
Bosques Amazónicos



FeprocAMD

Figure 6.26. Bulletin January 2021 II



REDD+ Castañeros Madre de Dios

Boletín Junio 2021



Bam
Bosques Amazónicos



Talleres informativos

A fin de compartir más información sobre REDD+ Castañeros, el equipo viene desarrollando una serie de talleres llamados "Conservemos y protejamos nuestros bosques de castaña". A la fecha, se han realizado dos talleres: uno en Alegría (40 asistentes) y otro en Mavila (42 asistentes), con la participación de concesionarios de los sectores aledaños a Alegría (San Carlos, Bajo Alegría, Carmen Rosa, El Piñal, Virgen del Carmen, Cafetal, San Juan de Aposento, Varsovia y Loreto); y de los sectores aledaños a Mavila (Cafetal, Shiringayoc, La Novia, Manuripe, Santa Rosa, Miraflores).

Durante las sesiones, el equipo de REDD+ Castañeros expone sobre el proyecto: su historia, beneficios y planes a futuro. Asimismo, el equipo comunica las diferentes actividades que el proyecto viene implementando para sus socios: **ordenamiento y linderamiento de concesiones, asesoría técnica y legal, sistema de monitoreo para proteger las áreas y detectar amenazas de deforestación, entre otras.**

Además, se da espacio para que los socios puedan realizar preguntas, así como hacer llegar sus dudas y requerimientos para el proyecto. Estos talleres se llevarán en las diferentes localidades del proyecto. Próximamente en Alerta, Planchón y Río Parímanu. Para ello, se informará previamente a través de los dirigentes de la FEPROCAMD y de la difusión en otros medios como el grupo de Whatsapp del proyecto.

Asimismo, el equipo viene preparando diferentes talleres para todo el año, a realizarse en los diferentes sectores castañeros, sobre temas de interés como: manejo sostenible de los bosques de castaña y desarrollo de alternativas sostenibles que ayudan a conservar los ecosistemas y a la vez generan alternativas de ingresos económicos.



Para cualquier consulta, ya sea a nivel técnico, legal, administrativo o si está interesado en formar parte del proceso de ordenamiento y linderamiento de las concesiones castañeras, por favor contactar al equipo a los números de teléfono brindados al final del documento.

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Figure 6.27. Bulletin june 2021 I

Ordenamiento y Linderamiento

Seguimos avanzando con el proceso de ordenamiento y linderamiento (demarcación de límites) de las concesiones de nuestros hermanos castañeros en colaboración con una empresa consultora contratada. Este proceso es fundamental para el correcto saneamiento de las áreas de nuestros socios y su registro ante las autoridades competentes.



¡Sigamos con el compromiso de cuidar nuestros bosques ancestrales y la gran biodiversidad de nuestra Amazonía!

Boletín REDD+ Castañeros

Junio 2021

Biodiversidad

En mayo se realizó un estudio de biodiversidad (mastozoología, ornitofauna, anfibios, reptiles, flora) en las concesiones castañeras de Alegría, Mavila y Alerta con el objetivo de evaluar el estado de nuestros bosques y seguir logrando los más altos estándares de calidad para nuestro proyecto REDD+ Castañeros.

Tras hacer un diagnóstico para determinar la composición, riqueza, abundancia y frecuencia de la biodiversidad presente en el área, el equipo de expertos concluyó que los bosques de castaña están preservados y conservados en buen estado. Este resultado refleja la gran labor de los socios castañeros por conservar los bosques de sus concesiones.



Resultados importantes:

- **Avifauna:** se registraron (directos e indirectos) un total de **441 individuos vistos**, divididos en 17 órdenes, 38 familias, 156 géneros y 224 especies.
- **Mastozoología:** en la evaluación de mamíferos mayores y menores no voladores se registraron 35 especies: 28 en Mavila, 23 en Alerta y 24 en Alegría. La familia con más especies registradas es Cebidae (05 especies) del Orden Primates.
- **Anfibios y reptiles:** se registró un total de **29 especies de herpetozoos**, de estos, 18 pertenecen a la clase Amphibia, distribuidas en 5 familias, y 11 a la clase Reptilia, distribuidas en 8 familias.
- **Flora:** se registró de un total de 175 Individuos, 82 Especies, 69 Géneros, y 31 Familias.

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Comunidad

Entre mayo y junio realizamos entrevistas personales para escuchar a nuestros socios: les preguntamos qué esperan del proyecto, cuáles son sus requerimientos y necesidades a fin de seguir avanzando en el desarrollo de actividades que nos permitan generar el mayor impacto posible. Para ello, el equipo se acercó a 78 socios, realizando encuestas sobre su percepción con el objetivo de seguir mejorando en conjunto.



Evaluación externa: verificación cosecha 2017-2020



Para cumplir con las normas y requerimientos del mercado de carbono mundial, el proyecto REDD+ Castañeros, liderado por el equipo técnico, está pasando por un proceso de evaluación por una consultora externa. Así como los castañeros son visitados por autoridades como el OSINFOR o SERFOR para asegurar que se esté cumpliendo con los compromisos establecidos, el Proyecto REDD+ Castañeros es visitado y evaluado por las autoridades encargadas del estándar VCS (el estándar internacional bajo el cual el proyecto está registrado). Este proceso es necesario para demostrar el impacto de REDD+ Castañeros y verificar que los socios estamos cumpliendo objetivo de conservar los bosques de castaña de Madre de Dios.

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Asesoría a los socios y monitoreo de los bosques

El equipo de REDD+ Castañeros viene brindando **asesoría técnica y legal de forma permanente** a los socios del proyecto, con el fin de **prevenir la deforestación y hacer frente a amenazas en nuestros bosques** como: incendios, quemas, invasiones de ajenos para hacer chacra, cultivos o ganadería, tala ilegal, minería ilegal, apertura de caminos, etc.

Además, el equipo viene implementando un **sistema de monitoreo completo para identificar amenazas de deforestación y minería ilegal**. Este sistema nos ayuda a cumplir el objetivo de nuestro proyecto: evitar la deforestación y conservar nuestros bosques de castaña.

Si observas alguna amenaza de deforestación en tu concesión, por favor no dudes en contactarte con el equipo del proyecto REDD+ Castañeros para poder ayudarte en el proceso.



¿Eres concesionario de castaña y todavía no perteneces al proyecto REDD+ Castañeros?

Acércate a nuestras oficinas Pasaje Luis Perez Valera o llama a alguien del equipo para poder brindarte información sobre cómo participar.

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Figure 6.28. Bulletin June 2021 II

Beneficios económicos por conservar los bosques



Seguimos entregando beneficios económicos a todos los socios del proyecto REDD+ Castañeros.

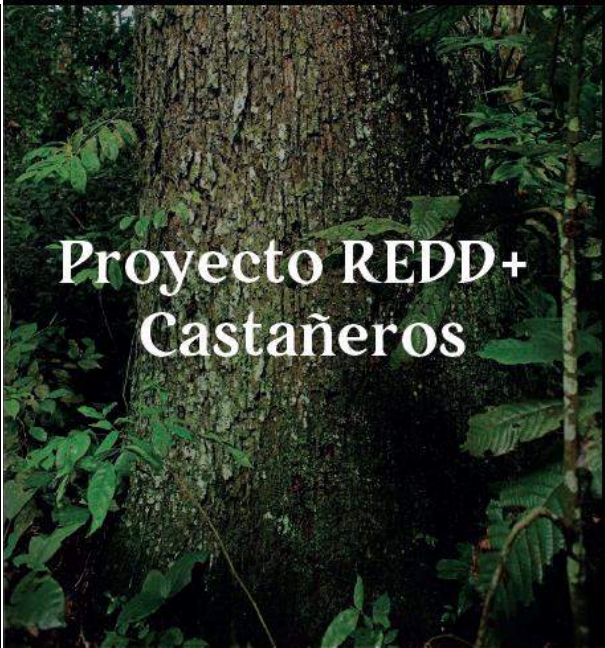
Además de los diferentes beneficios que REDD+ Castañeros ofrece para sus socios -como asesoría técnica y legal permanente, sistema de monitoreo, proceso de ordenamiento y linderamiento de las concesiones, talleres de capacitación, entre otros- REDD+ Castañeros brinda beneficios económicos a cada uno de los socios titulares del proyecto, como resultado de las ventas de créditos de carbono en el año. A diferencia de otros proyectos, REDD+ Castañeros busca generar, además de las actividades necesarias para conservar los bosques, que los beneficios del proyecto lleguen directamente a cada uno de los socios.

A la fecha, **329 socios** han recibido **S/. 1,500 (mil quinientos soles)** con motivo del adelanto de utilidades por la venta de créditos de carbono del año. Aún hay socios que no se han comunicado para recibir su beneficio. A ellos, les pedimos se comuniquen con el equipo del Proyecto para coordinar la entrega correspondiente.

En **Julio de 2021** se repartirá un total de **S/. 1'215,000 (un millón doscientos quince mil soles)** entre los socios, con motivo de un **segundo adelanto de utilidades**. En esta ocasión, **cada socio recibirá S/. 3,000**.

Luego de hacer el balance de las ventas del año 2021, se entregará el saldo de utilidades para los socios. El equipo estará comunicándose con todos los socios para mayor detalle sobre las próximas reuniones de entregas de beneficios.

Boletín REDD+ Castañeros **Junio 2021**



Proyecto REDD+ Castañeros

Contacto:
Daisy Chavez: +51 951 386 171
Fabiola Villanueva: +51 964 102 622
Grupo en Facebook: Proyecto REDD+ Castañeros MDD - Bam - Feprocand
Grupo de Whatsapp: contactarse con Elmer Racua Quispe; +51 941 247 962
Oficina: Pasaje Luis Pérez Valera, Mza. 2F lote 4 urb San Luis (al lado de la gerencia forestal, Av universitaria).

Figure 6.29. Bulletin June 2021 III



Figure 6.30. Bulletin september 2021 I



Figure 6.31. Bulletin september 2021 II

Linderamiento de concesiones

Seguimos avanzando con el proceso de linderamiento para definir y mantener los límites exactos de las concesiones de cada socio.

¿Por qué debemos realizar el proceso de linderamiento?

Para que los socios del proyecto puedan cumplir con su obligación como titulares de concesión (establecida en la Ley Forestal y de Fauna Silvestre #29763) y así no reciban infracciones administrativas.

Para tener las concesiones saneadas y que así puedan ser correctamente inscritas en registros públicos.

¿Qué pasa luego de realizar el proceso de linderamiento?

Se está contemplando una segunda etapa donde se incorpore el trabajo de ordenamiento castañero. Para esto, es crucial que los castañeros cuenten con sus linderos definidos y así poder hacer un mejor ordenamiento; manejando así un área ya demarcada, definida y sin conflictos.

¿Cuánto cuesta el proceso de linderamiento?

Este proceso es totalmente gratuito para el concesionario castañero.

Si eres socio del proyecto y estás interesado en llevar a cabo el beneficio de linderamiento, por favor no dudes en ponerte en contacto con el equipo mediante los números indicados al final del boletín.




Boletín mensual

Setiembre 2021

Entrega de beneficios económicos

Además de los diferentes beneficios que REDD+ Castañeros ofrece para sus socios -como asesoría técnica y legal permanente, sistema de monitoreo, proceso de ordenamiento y linderamiento de las concesiones, talleres de capacitación, entre otros- REDD+ Castañeros brinda **beneficios económicos a cada uno de los socios** titulares del proyecto, como resultado de las ventas de créditos de carbono en el año. A diferencia de otros proyectos, REDD+ Castañeros busca generar, además de las actividades necesarias para conservar los bosques, que los beneficios del proyecto lleguen directamente a cada uno de los socios.

A la fecha, los socios han recibido **dos adelantos de utilidades** por la venta de créditos de carbono del año:

S/ 1,500 en mayo a 336 socios y **S/ 3,000** en julio a 341 socios hasta la fecha.

Aún hay socios que no se han comunicado para recibir su beneficio. A ellos, les pedimos se comuniquen con el equipo del proyecto para coordinar la entrega correspondiente.

Luego de hacer el balance de las ventas del año 2021, se entregará el saldo de utilidades para los socios. El equipo estará comunicándose con todos los socios para mayor detalle sobre las próximas reuniones de entregas de beneficios.



Boletín mensual

Setiembre 2021

Figure 6.32. Bulletin september 2021 III

Nueva identidad de marca REDD+

¡Nos renovamos!

La **identidad de marca** del proyecto REDD+ Castañeros se ha reinventado y está siendo estrenada con el presente boletín.

Creamos la nueva identidad de marca del proyecto REDD+ Castañeros con el objetivo de **refrescamos y consolidarnos como grupo**. Sabemos que esto facilitará el reconocimiento y fortalecerá el **compromiso** que todos tenemos con la conservación de nuestros bosques de castaña. Así, reforzamos la **identificación** de todos nuestros socios con las estrategias y actividades que plantea el proyecto.

Además, fortalecemos nuestro **posicionamiento** en el mercado internacional de carbono, como **proyecto de conservación de categoría mundial**.






Boletín mensual **Setiembre 2021**

PROYECTO REDD+ CASTAÑEROS
Boletín Setiembre 2021




Bam
Bosques Amazónicos

Contacto

Daisy Chavez: 951 386 171
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Grupo Facebook: Proyecto REDD+ Castañeros MDD - Bam - Feprocamd
Grupo Whatsapp: contactar con Elmer Racua Quispe: 941 247 962
Oficina: Pasaje Luis Pérez Valera, Mza. 2F lote 4 urb San Luis (al lado de la gerencia forestal, Av universitaria)
Horario de atención: 7am - 3pm, de corrido.

Figure 6.33. Bulletin september 2021 IV