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Document Description of the QUICK GROUP PROJECT IIPANA REDD+

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Acronyms and acronyms

CARBONCER	Certified credit for the removal or reduction of greenhouse gas emissions
CERCABONO	Voluntary carbon certification company
CH4	Methane
CMNUCC	United Nations Framework Convention on Climate Change
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
COP	Conference of the Parties
COS	Soil Organic Carbon
DTAM	Amazon Territorial Directorate National Natural Parks of Colombia
EOT	Basic Territorial Planning Scheme
EROS	Observation and Science of Earth Resources
FR	GHG emission source or reservoir
FCCB	Forest Carbon Cooperative Fund
GBP	Good Practice Guide (IPCC)
GEI	Greenhouse gases
ha	Hectare
IDEAM	Institute of Hydrology, Meteorology and Environmental Studies
IPCC	Intergovernmental Group of Experts on Climate Change
MDL	Clean Development Mechanism
MFS	Sustainable Forest Management
MRV	Measurement/Monitoring, Reporting and Verification
N2O	Nitrous oxide
NREF	Forest Emissions Reference Level
O3	Ozone
ODS	Sustainable Development Goals
OT	Territorial Planning
OVV	Validation and Verification Body
PNNC	National Natural Parks of Colombia
PBOT	Basic Territorial Planning Plan
PCA	Principal component analysis
PDD	Project design document
PMCC	Climate Change Mitigation Program or Project
POT	Territorial arrangement planning
PRR-	Project for the Removal and Reduction of GHG emissions due to Deforestation and Forest Degradation avoided
GEI/REDD+	and other actions in this sector
PSA	Payment for Environmental Services
REM	Programa REDD Early Movers
PURIFIER	National GHG Emission Reduction Registry
SNAP	National System of Protected Areas (Colombia)
SMBYC	Forest and Carbon Monitoring System
tCO2e	Tons of carbon dioxide equivalent

1 Information on the climate change mitigation program or project (PMCC)

1.1 Information of the PMCC holder

The YAAWI IIPANA REDD+ Group Project is constituted by the Mori-chal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and other Indigenous Reserves, located in the municipality of Retorno and part of San José del Guaviare, in the department of Guaviare. The name refers to the proposing reserve's own characteristic, "YAAWI IIPANA" translates to "the house of the jaguar" in Curripaco language, one of the predominant languages of the Morichal Viejo Indigenous Reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, in honor of the jaguar or butterfly tiger (*Panthera onca*), one of the protective animals and guardians of its territory, symbol of wisdom about culture and nature in accordance with its cosmovision for its strength, stealth, skill and speed.

The proponent of the project is the indigenous reservation Morichal Viejo, Santa Rosa, Cerro Co-cuy, Santa Cruz, Caño Danta and others, who owns the land ownership of the properties where the project actions are carried out (See Annex 1); based on the rights of usufruct of their lands and ownership thereof, they designate the company BIOFIX CONSULTO-RÍA SAS to manage the design of the project document and grant them exclusive rights to issue and market the reduction certificates. of emissions generated by the project, including all the powers necessary to achieve these purposes, which include registration on the different platforms, this through the temporary association signed between the parties. It is presented in figure 1., the

project proponent and strategic allies for it - the latter are described in [section 1.2](#)

Figure 1. Organizational Chart of the YAAWI IIPANA REDD+ Group Project



Source: YAAWI IIPANA REDD+ Group Project

The Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, finalized the land application process on November 30, 1998 through the statement of the Colombian Institute of Agrarian Reform (INCORA) in the resolution No 045 of 1998 (Annex 1) by which legal status is conferred and the indigenous communities of Puinave, Curripaco and Cubeo are granted the globe of vacant lands with an approximate area of 670,000 hectares, located in the jurisdiction of the municipality of El Retorno, and part of the municipality of San José del Guaviare, department of Guaviare, which has a population of 901 people organized in 11 communities.

At the head of the proposing Indigenous Reservation, Esaú Ramírez Castro acts as representative in the project and legal representative of the reservation, taking into account the election held in General Assemblies of captains and other traditional indigenous authorities, ratified in the internal minutes December 2 of 2021 (Annex 2), expanded with the power granted to process and sign projects for the benefit of the communities (Annex 4), presented to the General Secretariat of the municipality of El Retorno, before whom the designation is recognized (Annex 3) and corroborated with the signing of the Free, Prior and Informed Consent (Annex 8); in accordance with the Socio-environmental Safeguards section 6 by the captains who lead the communities within the Reservation, which are recognized by the Ministry of the Interior, as observed in Resolution 175 of 2019

(Annex 5), in which the Directorate of Indigenous, ROM and Minority Affairs registers in the Register of Indigenous Town Halls and/or Traditional Authorities the Association ASOMAUWOT,

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in which the 11 authorities of the Reservation equivalent to the 11 captaincies are associated

It is necessary to highlight that the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, is the owner and holder of the areas where the YAAWI IIPANA REDD+ Grouped Project is developed, which is why they are the owners of the carbon credits issued within the framework of the initiative. Likewise, they designate Biofix Consultoría SAS as the developer of the technical document, platform management and leader in the validation, verification and certification stages of the project, as well as the person in charge of the marketing and sale of said bonds.

Table 1. Legal representative data Morichal Viejo indigenous reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others

Complete names)	Esau Ramirez Castro
Name of institution (if Old Morichal applies)	Morichal Indigenous Reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others
Roles or responsibilities	Legal Representative Indigenous Reserve Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others
ID	1.030.480.170
Location	Santa Rosa Community - Morichal Indigenous Reserve Old, Santa Rosa, Cocuy Hill, Santa Cruz, Danta Canyon and others El Retorno Municipality – Guaviare Department
Phones)	3147018694
Email	esauramirez334@gmail.com

1.2 Information from other institutional participants of the PMCC

1.2.1 BIOFIX CONSULTORIA SAS

It is a simplified joint-stock company that aims to promote and strengthen sustainable development and social well-being, through the formulation and implementation of projects with a focus on nature-based solutions, thereby seeks to reduce greenhouse gas emissions.

This is how in its history it has established eight REDD+ initiatives at the national level and 1 at the international level in Brazil, highlighting that they have been carried out in indigenous reservations, community councils and private actors. As mentioned before, BIOFIX is in charge of managing the design of the project document and the commercialization of the emission reduction certificates, as well as the management, management and registration to the corresponding platforms.

With respect to the proposing indigenous reservation, those who are the owners and holders of both the lands and the bonds issued by the YAAWI IIPANA REDD+ Grouped Project, designate Biofix as the structuring company of the initiative and approve the right to issue and commercialize said bonds. is exclusive to the Biofix company, as mentioned in the Free, Prior and Informed Consent, ratified in the first

validation and verification process on December 15, 2019 by the Legal Representative and the captains of the reservation designated at that time.

Table 2. Legal representative data Biofix Consulting SAS BIC

Complete names)	Ana Milena Plata Fajardo
Name of the institution (if applicable)	BIOFIX CONSULTORIA SAS BIC
Roles or responsibilities	Legal representative
Identification	901.166.791-9
Location	Avenida Carrera 45 # 108 ^a – 50 Office 404, Bogotá, DC
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Email	correspondencia@biofix.com.co

1.2.2 Environmental authorities with jurisdiction in the project area and instructions related planning elements

The environmental authority that has jurisdiction for the department in which the project municipalities are located is the Corporation for the Sustainable Development of the North and Eastern Amazon – CDA1, which within the functions established in Law 99 of 1993 Title VI, article 31, is responsible, among other tasks, for the management of land use planning to mitigate inappropriate uses and exploitation of the land, as occurs with deforestation phenomena; ii) promote community participation in activities and programs of environmental protection, sustainable development and adequate management of renewable natural resources; iii) advance in coordination with the authorities of the indigenous communities (...) programs and projects for sustainable development and management, exploitation, use and conservation of renewable natural resources and the environment; iv) provide technical assistance to public and private entities and individuals regarding the proper management of renewable natural resources and the preservation of the environment; key activities in the articulation and formation of institutional synergies for the viability of this type of conservation projects.

Now, as instruments of planning and compliance with the objectives previously described by Title VI, article 31 of Law 99 of 1993, the corporation establishes in its jurisdiction environmental management tools such as the 2020-2023 Action Plan “For one Sustainable Amazon for all” and the Regional Environmental Management Plan (PGAR) 2012 – 2023.

Regarding the PGAR 2012 – 2023, whose purpose is the implementation and harmonization of environmental planning instruments, the CDA embodies in the environmental vision for regional development the articulation of efforts to generate opportunities and alternatives that allow sustainable use of forest resources, which contribute to improving the income of the population, based on food security and access to basic services, through the organization and establishment of companies

¹ The CDA exercises environmental authority in the departments of Guainía, Vaupés and Guaviare

associated with green markets and highlights the opportunity to establish adaptation and mitigation strategies and take advantage of trade and financing opportunities associated with carbon.

On the other hand, the 2020-2023 Action Plan is a document that articulates the National Development Plan, the department's PGAR and the 2030 Agenda along with a focus on its policies, goals and strategies with the Sustainable Development Goals, which They are a product of the needs and problems of the Guainía, Guaviare and Vau-pés departments, with special emphasis on the focus of deforestation that has been unleashed in the Guaviare. Furthermore, one of the axes of the problems in the three departments is associated with climate change and disaster management and the need for institutional strengthening, according to the results of the Third National Communication on Climate Change -TCNCC.

Now, institutional actors at the national level, such as the Ministry of Environment and Sustainable Development (MADS) and the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM), are responsible for adopting policies and regulations regarding climate change. with the aim of providing appropriate guidelines for this type of REDD+ projects. As for the MADS, it adopts the National Climate Change Policy in which it establishes within its strategies the National Strategy for the reduction of emissions due to deforestation and forest degradation (ENREDD+), the basis for the Agru-Project. pado YAAWI IIPANA REDD+. And in relation to IDEAM, the function is to manage the platform of the National Registry for the Reduction of Greenhouse Gas Emissions (RENARE) regulated by Resolution 1447 of 2018, which establishes the developers of initiatives of GHG reduction to register the projects, in this case GHG, on the platform in order to generate an accounting report where the traceability of the transactions carried out by each GHG mitigation initiative can be seen.

1.2.3 Indigenous peoples

Although population groups belonging to different recognized indigenous peoples live in the territory, the Puinave and the Curripaco predominate and are the ethnic groups that have traditionally lived in these spaces (Ministry of Justice & UNODC, 2016).

As for the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, their predominant ethnic groups are Puinave and Curripaco with 249 and 330 people respectively² there is also representation of other peoples such as the Cubeo, with 62 indigenous people belonging to this ethnic group (Ministry of Justice & UNODC, 2016). Additionally, the communities mostly live on the banks of rivers due to the fertility of the soils and the location of ethnic hunting and fishing places (Ministry of Justice & UNODC, 2016).

For its part, the Puinave people or ethnic group are located specifically on the banks of the main rivers of the departments of Guainía, Guaviare and Vichada. The Makú language has been associated with them and it is known that their nomadic ancestors managed to explore areas in

² Of a total of 869 indigenous people belonging to the Reservation in question

near Cerro de Mavicure and the Orinoco, Isana and Papunáua Rivers, considering one of the orographic formations in the region called “Cerro Caballo” as their ethnic place of origin (Ministry of Justice & UNODC, 2016).

In reference to the Curripaco people, Journet (1980) indicated that they are indigenous people from the north of the Amazon who inhabit Colombia, Brazil and Venezuela, whose ancestors lived in malokas and were divided between those who carried out field work, those who were in charge of the preparation -ration of fariña and casabe and those who fished and made tools. Additionally, the Kurripaco language belongs to the Arawak linguistic family, along with Piapoco and Wa-rekena and has three dialects: “ôjo-kjárú, âjakurri and êje-kjénim. Culturally, their pattern of affiliation or kinship relationship is patrilineal and exogamous, that is, marriage alliances are made with other nearby population groups such as the Puinave, Cubeo, Piapoco and colonists (Sanchez, 2007).

It should be noted that the Curripaco live mostly in the departments of Vaupés, Guaviare and Guainía with an estimate of 11,946 people who identify with this ethnic group (DANE, 2018b).

1.3 Objective of the PMCC

The Amazon biome is characterized by having a high richness in its ecosystems and forests, which generates high levels of faunal and floristic biodiversity of both native and endemic species, which is why they exchange high levels of water and energy with the atmosphere, playing an important role in the local and regional microclimate in the country. However, the department of Guaviare has historically been immersed in dynamics of state abandonment and armed conflict, which has caused social and environmental problems in terms of the management and management of resources, postulating a scenario of overexploitation and detriment to the state of the ecosystems, causing the loss of the biodiversity that composes it.

In this order of ideas, the project aims to strengthen its decision-making bodies within the community to guarantee the conservation of the territory, reducing CO2 emissions derived from deforestation and forest degradation, as well as finance activities that generate another type of entry to the community and thus, reduce the drivers and agents of deforestation in the area.

For this reason, lines of action are established, with strategies that aim to protect the forest by reducing and controlling deforestation and forest degradation through sustainable use actions and reconversion of processes carried out by the community around deforestation, towards a more profitable activity with a lower degree of impact on the natural environment, benefiting biodiversity.

Therefore, the strategies in question are focused on carrying out monitoring, recovery and sustainable management activities of forests through the increase of forest governance, within the framework of the line of action called “monitoring and control of deforestation and forest degradation”, and the “program for the conservation of biological diversity and the restoration, recovery and/or participatory rehabilitation of deforested and/or degraded ecosystems”.

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Consequently, the implementation of the programs described will be carried out within the framework of their autonomy by the Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and other Indigenous Reservations located in the municipality of El Retorno and part of San José. of Guaviare, in Guaviare, in a useful life period of 30 years which begins on January 1, 2016 and ends on December 31, 2045.

To fulfill these purposes, the following objectives are established for the YAAWI IIPANA REDD+ Grouped Project:

- Mitigate the effects caused by climate change by adopting measures to reduce and capture CO₂ emissions, avoiding deforestation and forest degradation and promoting the rehabilitation of degraded forest territories.
- Promote the sustainable management of forests located in the area of influence of the project by forest custodians, by promoting productive activities compatible with the reduction of emissions generated by deforestation and forest degradation.
- Cooperate in the conservation of biodiversity through the protection of ecological connectivity and habitat, of those species that are included within some threat category, that represent an environmental interest as bio-indicators in ecosystems or that have scientific interest.
- Contribute to the improvement of quality of life and promote education on gender equality by increasing the leadership, empowerment and entrepreneurship capacity of Afro women in the collective territories.

The project in the first instance area foresees the reduction of net emissions of **21,610,198 tCO₂e** during the 30 years of useful life, that is, **720,340 tCO₂e** annual average; and **14,470,023 tCO₂e** during the 20 years of the accreditation period, that is, **723,501 tCO₂e** annual average.

1.4 Description of the PMCC

The YAAWI IIPANA REDD+ Grouped Project is a grouped project that consists of two instances within the same collective territory awarded to a single proponent such as the Morichal Viejo Indigenous Reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others. The first instance contemplates an area of 417,385 hectares while the second 253,760 hectares, the latter was withdrawn from a program different from the current one (Annex 10) and will be included in the new grouped project YAAWI IIPANA REDD+ under the CERCAR-BONO standard .

The initiative aims to prevent **21,610,198 tCO₂e** from being emitted into the atmosphere, through the conservation and protection of **403,199 hectares** of humid forests in the department of Guaviare (not counting the **247,919** hectares of a second instance), mitigating the threats posed by the main agents and drivers of deforestation, in particular the strategy is to avoid deforestation through the implementation of a REDD+ project (Reduction of Emissions due to Deforestation and Forest Degradation, conservation of carbon reserves , sustainable forest management and improvement of forest reserves in developing countries).

Grouped Project FAST IIPANA REDD+

In this way, the indigenous reservation proposing Resguardo Indígena Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, acquires climate financing for the regulatory ecosystem services provided, to finance projects that improve living conditions of the communities, diversify income, satisfy unmet basic needs as well as, projects to protect forest reserves, sustainable forest management, participatory reforestation and deforestation monitoring and alerts of the eligible project areas, through analysis of remote sensors, with the purpose of reducing emissions generated due to deforestation.

Now, this project aims to reduce emissions caused by the loss of natural forest covers and their degradation, produced by anthropogenic activities, in the tropical humid forests of the El Retorno and San José del Guaviare municipalities, in the Guaviare. For the calculation, the carbon reservoirs in the above-ground biomass, underground biomass and organic carbon of the soils that the natural forest has are taken into consideration, as well as the GHG emissions avoided by degradation and deforestation actions identified in the scenario. baseline are the same for monitoring in the project scenario, with Carbon Dioxide (CO₂) being the GHG included, as evidenced in [section 2.8](#) and table 1. Additionally, given the situation that occurs With the Vision Amazon REDD+ program, the project begins activities for the deforestation segment on January 1, 2017, in order not to incur overlaps with the

program.

Regarding the useful life of the YAAWI IIPANA REDD+ Grouped Project, it has a duration of 30 years with a start date of January 1, 2016 and an accreditation period of 20 years. Since the start date, the proponent has carried out environmental and climate additionality projects with both technical and financial support from institutional and governmental entities, which own the collective territory of the proponent indigenous reservation in their jurisdiction of operation.

Table 3. GHG types contemplated by the IIPANA REDD+ Group Project

Type of GHG Activity that generates it	
CO ₂	Deforestation of natural forests and Forest Degradation

Source: YAAWI IIPANA REDD+ Group Project

Likewise, the leaks that may exist around the project area are quantified as a displacement of emissions due to the implementation of the project activities, of which the project assumes 15% of the leak belt; assume 3.0% of the individual reservation and 5% of the established amount of the collective reservation, for a total of 8.0% discounts on the reservation.

Table 4. Summary of ex-ante emissions reduction by useful life period, accreditation and monitoring

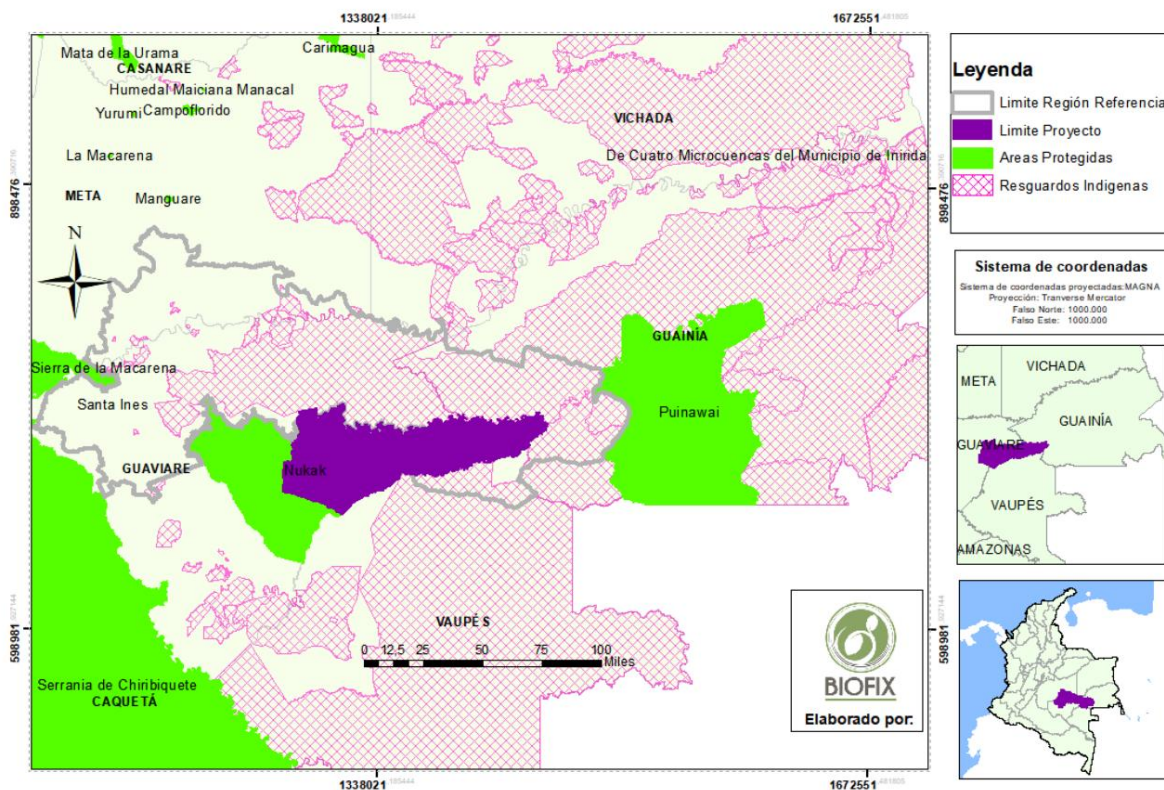
Years	Useful life Accreditation	
	30	20
Reduction of projected baseline emissions (t CO ₂ e)	24.417.986	16.350.176
Total project emissions (t CO ₂ e)	0	0
Total Leakage (t CO ₂ e)	2.807.788	1.880.153
Reduction of net emissions (t CO ₂ e)	21.610.198	14.470.023

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Annual average (t CO ₂ e)	720.340	723.501
Reserve Discount (t CO ₂ e)	1.728.816	1.157.602
Tradeable carbon credits (t CO ₂ e)	19.881.382	13.312.421

Source: YAWI IIPANA REDD+ Group Project

Figure 2. Location of YAAWI IIPANA REDD project



Source: YAWI IIPANA REDD+ Group Project

1.4.1 Sectoral scope and type of PMCC

Sector: 14 – Agriculture, Forestry and other land use (AFOLU)

Category: Reducing emissions from deforestation and degradation (REDD+)

Methodology: REDD+ methodology for the execution of REDD+ projects consistent with the reference levels presented by Colombia to the UNFCCC Version 1.3.1

Project Type: Type 1 removes or reduces 10,000 or more tons of CO₂e, on average per year. PRR-GHG

It is worth noting that, the YAAWI IIPANA REDD+ Group Project is a group project conformed by two instances where it is not intended to add new distinct to the area of the territory awarded to the proponent the Morichal Viejo indigenous reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others

1.4.2 Location and boundaries of the PMCC

The YAAWI IIPANA REDD+ Group Project covers **671,145 ha** differentiated into two instances, the *first* with 417,385 ha and the *second* with 253,760 ha, both located in the collective territory of the proposing indigenous reserve, mentioned in [section 1.1](#), with the difference that the second instance was linked to a project in another standard³

which was withdrawn in order to be added to the current grouped project under the certifying body CERCARBONO.

The centroid coordinates that delimit the grouped project area are described below:

Table 5. Geometric centroid coordinates of the project area

Indigenous Reserve	Instances (ha)	Latitude	Length
Old Mori-chal Indian Reserve, Santa Rosa, Cocuy Hill, Santa Cruz, Cane Danta et al.	First instance 417.385	2°5'48.05"N	70°30' 10.37"W
	Second instance 253.760	1°58'8.36"N	71°15' 16.28"W
Total	671,145 ha		

Coordinate System: Geographic WGS_1984_UTM (EPSG 4326)

Source. Grouped Project FAST IIPANA REDD+

³ This project involved the same developers and proponents of the current project.

It is necessary to highlight that the first instance is overlapping with the Nukak National Natural Reserve, in fact, according to the geospatial analysis carried out by the GIS Coordinator based on the geodatabase (annex 29), it is estimated that 62.07% of the The reservation area overlaps with the Nukak National Natural Reserve, however, it is implied that in the Award Resolution No. 045 of 1998 the area corresponds to 50%, while the Life Plan 52%, but according to geospatial analysis; The 52% figure relates to the area of the Reserve that is not overlapping. Reason for which, the value established by the developer's geospatial analysis will be assumed; 62.07%. Thus, the Ministry of Environment and Housing, in the process of allocating the vacant lands to the ethnic community, issued the concept of favorability for the constitution of said reservation within the Nukak National Natural Reserve, as shown in the annex27.

In coherence with the above, the study elements of the spatial limits are presented like this and can be visualized geographically in figure 2

- The reference region of the project has an area of **3,573,512 hectares** of which **2,822,636 hectares** corresponded to forest in 2005; and 2,700,278 ha corresponded to forest in 2014
- The eligible project area has **651,118 hectares**, divided into **403,199** hectares for the first instance **and 247,919 hectares** for the second instance
- The leakage belt is **331,566 hectares** of which **311,743 hectares** correspond to forest in 2016.

1.4.2.1 Spatial limits

The spatial extent of the project activity is defined as follows:

1.4.2.1.1 Project Area (AP)

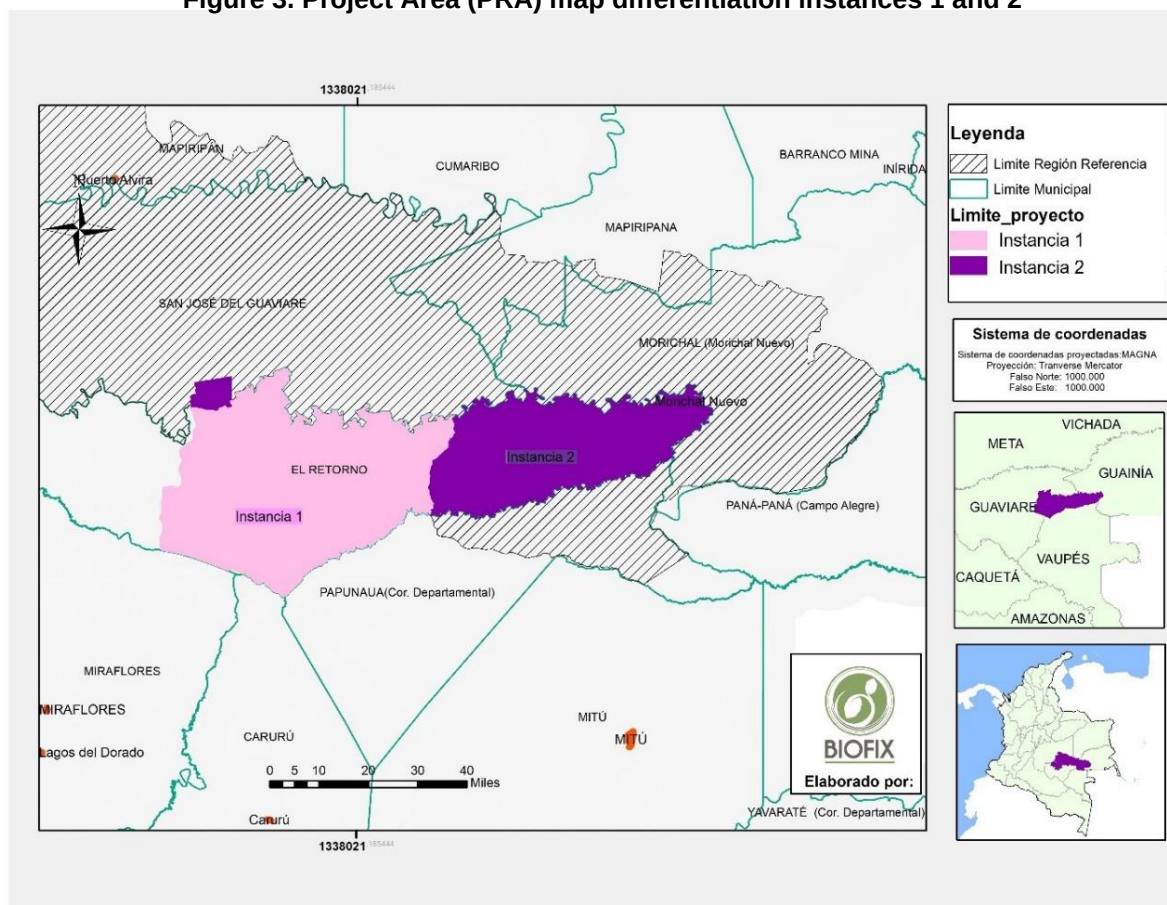
The project area is categorized into two instances, the second instance refers to the areas that underwent a validation and verification process under another standard such as The only proponent is the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, contemplating 253,760 hectares. While, the first instance, although it is part of the territory awarded to the previously mentioned reservation, is a new area that for the first time is in a validation and verification process, it has an area of 417,385 hectares. Both are located in the El Retorno municipality and part of the San José del Guaviare municipality of the Guaviare department.

Thus, the two instances add up to a total area of **671,145 hectares** , that is, the total area awarded⁴ to the indigenous reservation is the same size as the total area of the project. Of this total, the area of forests that have remained as stable natural forests (according to the IDEAM definition) at the beginning of the reference period (2005) was analyzed.

⁴ It is necessary to clarify that the area awarded in resolution 045 of 1998 allocates 670,000 hectares, however, in the cartographic analysis 671,145 hectares were actually awarded.

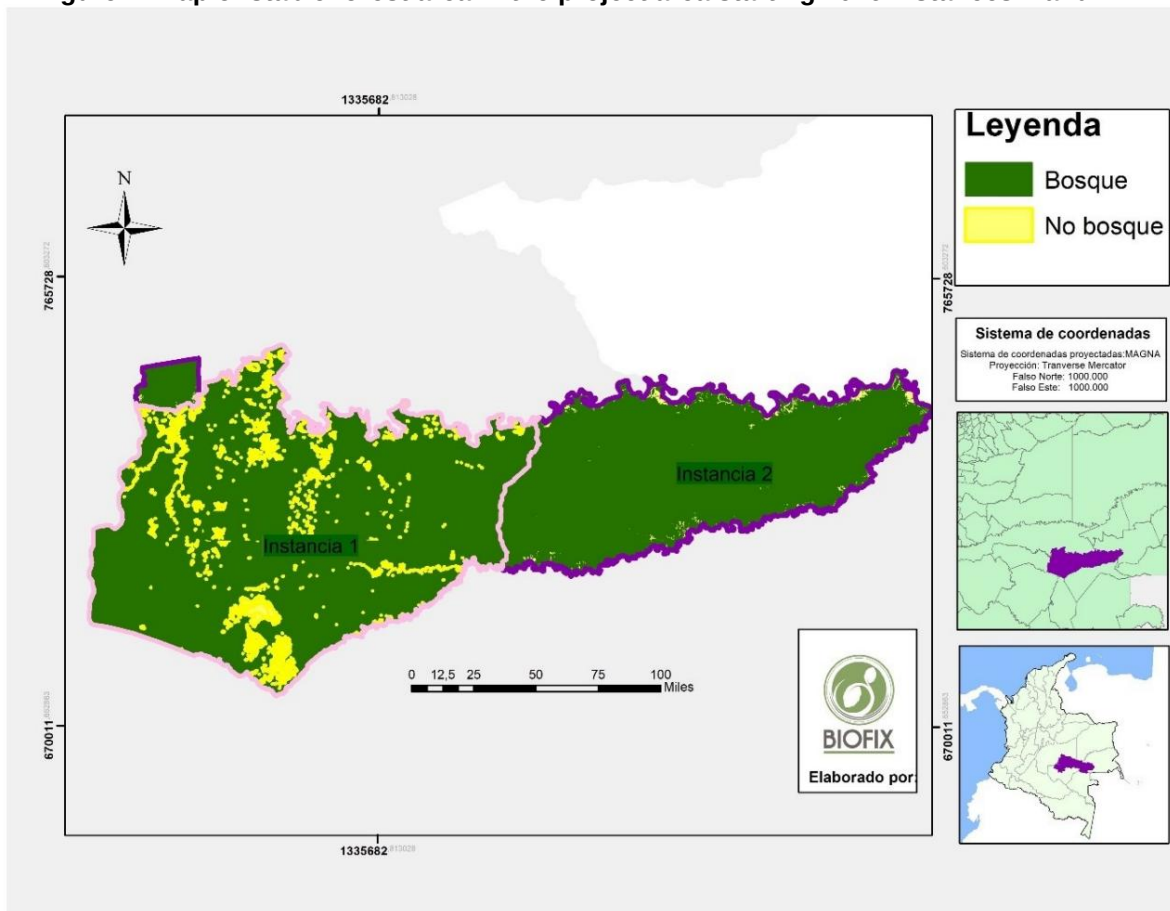
- 2014) said analysis showed an eligible area for the project of **651,118 hectares** and a non-eligible area of **20,027 hectares** for the year 2016.

Figure 3. Project Area (PRA) map differentiation instances 1 and 2



Source: YAWI IIPANA REDD+ Group Project

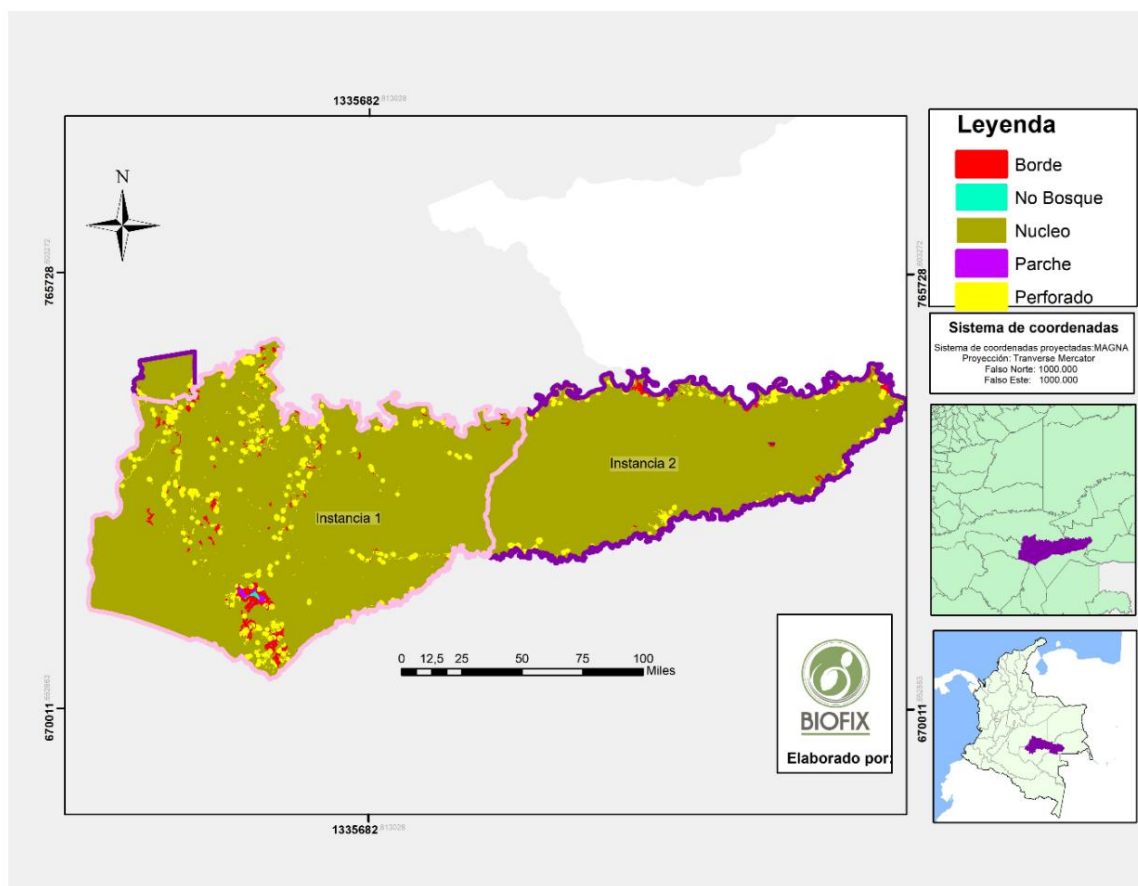
Figure 4. Map of stable forest area in the project area starting 2016 instances 1 and 2



Source: YAWI IIPANA REDD+ Group Project

Likewise, the cartography associated with the forest degradation processes in the project area during the analysis of the second reference period is shown.

Figure 5. Map of forest degradation project area 2005-2014



Source: YAWI IIPANA REDD+ Group Project

1.4.2.1.2 Leak Belt (CF)

To determine the leakage belt, a buffer width of 2 km was used. Because within the project there are areas with a different type of tenure than the collective territory (private), they are also considered as areas where people can move. emissions and therefore a Buffer is also generated, resulting in a leakage belt of **331,566 ha**, where **311,743 ha** correspond to forest. The leak belt determination process is shown below.

To determine the leak belt, the following criteria were used:

- to.** The productive activities associated with the agents and causes of deforestation and forest degradation are the same as those presented in the reference region and in the project area as described in [section 2.5.1](#) . of this document.
- b.** The leak belt area is in the same biome as the project area to comply with the NREF 2019 for Colombia, in addition the leak belts of each polygon enclose the same life zones as the polygons of the project area, namely: Forest Humid Tropical (bh-T) for the department of GUA-VIARE, as described in [section 1.6.2.4](#)

- c. The adjacent microbasins of the leak belt are from the same hydrographic zones as the project area as described in section 1.6.2.2 of this document. d. The stable forest area in the
- leak belt was determined at the baseline.
(2016) is 311,743 hectares.
- and.** The leakage belt area has forest areas similar to the project area and also meets the minimum area requirement, that is, the ratio between the potential leakage forest area and the eligible project area is 0.77
- F.** All parts of the leak belt are easily accessible and reachable by deforestation agents.
- g.** The leak belt is not spatially biased relative to the distance between the edge of the belt and the edge of the project area without a justification based on mobility of verifiers or landscape and transportation criteria as described below.

Landscape factors:

These factors were determined by analyzing spatial databases (e.g., vegetation maps, land uses, and DEM (Digital Elevation Model) to generate slope and elevation), and were performed for both the project area and the leak belt. According to the methodology, the criteria to take into account were:

- The forests present in the leakage belt have the same proportion as in the project area ($\pm 20\%$).
- Soil types that are suitable for the land use practice used by the main agents of deforestation in the project area must be present in the leakage belt in the same proportion as the project area ($\pm 20\%$).
- The ratio of "gentle" (slope $<15\%$) to "steep" (slope $\geq 15\%$) slope classes in the project area should be ($\pm 20\%$) in the same proportion of the leakage belt.
- Elevation classes (500 m classes) in the leakage belt must be in the same proportion as in the project area ($\pm 20\%$).

Transportation factors: The following conditions must be met.

In the case where navigable rivers are located in the project area, the density (m/ km²) must be ($\pm 20\%$), both for the leakage belt and for the project area.

- Road density (m/ km²) should be ($\pm 20\%$) for the leakage belt as for the projected density (in the baseline period), for the project area (including a buffer of the total project area of at least 1 km).
- The settlement density (settlements/ km²) should be ($\pm 20\%$) for non-urban areas forested areas with a 1 km buffer around the project area.

Below is the table with a summary of the criteria established for the spatial determination of the leakage belt.

Grouped Project FAST IIPANA REDD+

Table 6. Criteria for the spatial determination of the leak belt area instance 2 project start

Landscape factors	Project	Leakage	Proportion (%)
	Area (Km2)	Area (Km2)	
Forest	4031.99	3117.43	29
ABA5 floor			
Typic Dystrudepts	1415,3	1121,2	21
Fluvaquentic Endoaquepts slope	489,7	392,7	20
<15% slope >15%	45,3	41,8	8
	0	0	0
Elevation <500	2537,7	3294,46	29
Elevation >500	0	0	0
Transportation factors			
Rivers density (km2)	69,3	54,5	22
Roads density (km2)	2,3	1,9	18
settlement density (km2)	0,14	0.12	15

Source: REDD QUICK IIPANA Project

Table 7. Criteria for spatial determination of the leak belt area instance 1 project start

Landscape factors	Project	Leaks	Proportion (%)
	Area (Km2)	Area (Km2)	
Forest	2479.19	3117.43	25
ABA6 floor			
Typic Dystrudepts	1321,3	1121,2	16
Fluvaquentic Endoaquepts slope	478,7	392,7	18
<15%	48,1	41,8	14
slope >15%	0	0	23
Elevation <500	2753,2	3294,46	19
Elevation >500	0	0	0
Transportation factors			
Rivers density (km2)	61,1	54,5	11
Roads density (km2)	2,1	1,9	10
settlement density (km2)	0,16	0.12	25

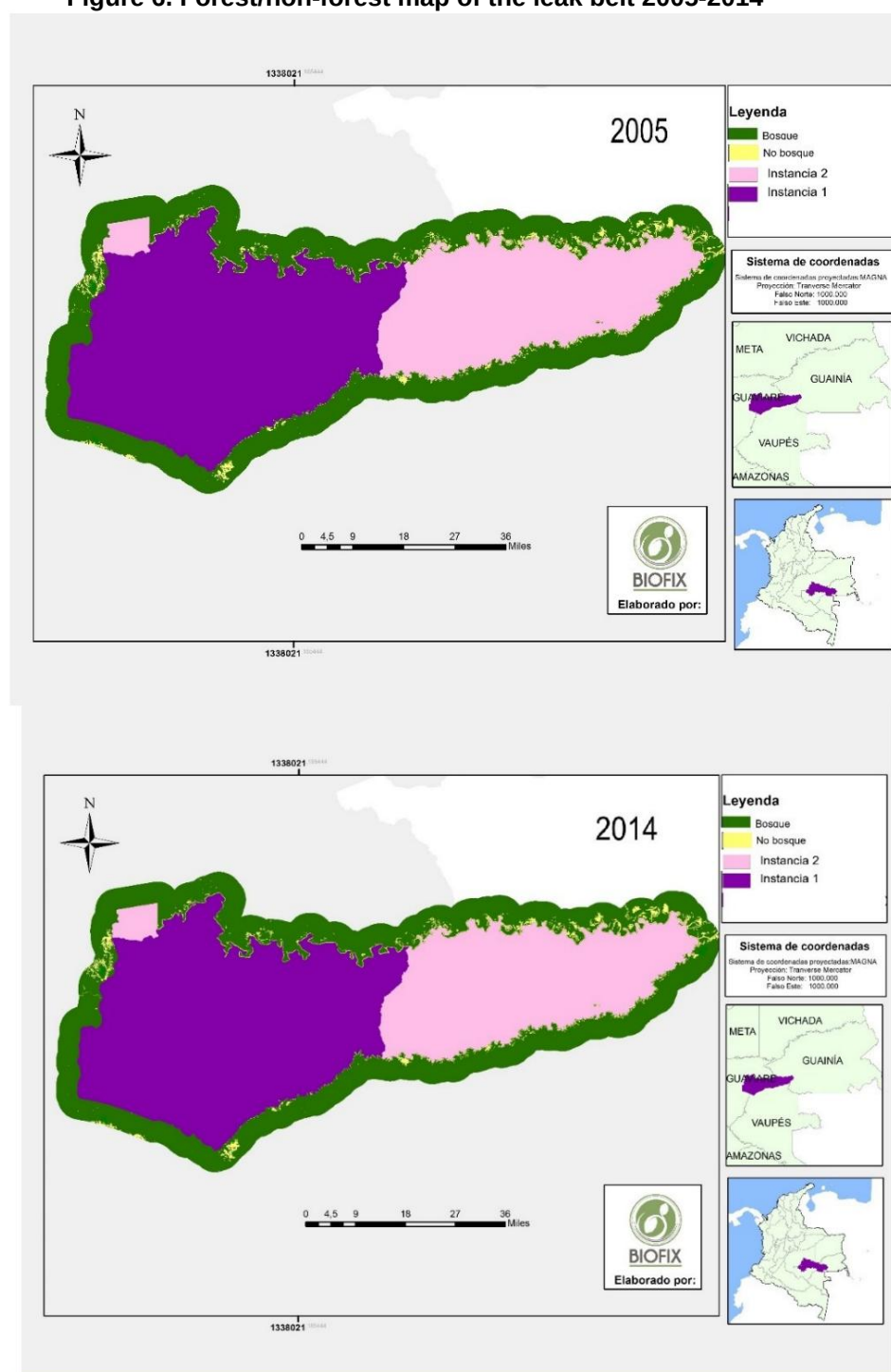
Source: REDD QUICK IIPANA Project

5 Soils with low activity clay minerals (ABA) are highly weathered soils in which 1:1 clay minerals and amorphous iron predominate, as well as aluminum oxides (in the BMR classification, they include acrisols, lixisols, nitisols, ferralsols, and durisols; the USDA classification also includes ultisols, oxisols, and acidic alfisols).

6 Soils with low activity clay minerals (ABA) are highly weathered soils in which 1:1 clay minerals and amorphous iron predominate, as well as aluminum oxides (in the BMR classification, they include acrisols, lixisols, nitisols, ferralsols, and durisols; the USDA classification also includes ultisols, oxisols, and acidic alfisols).

The following map shows: the spatial limits of the project and the leakage belt, sectors and the location of settlements in the project communities.

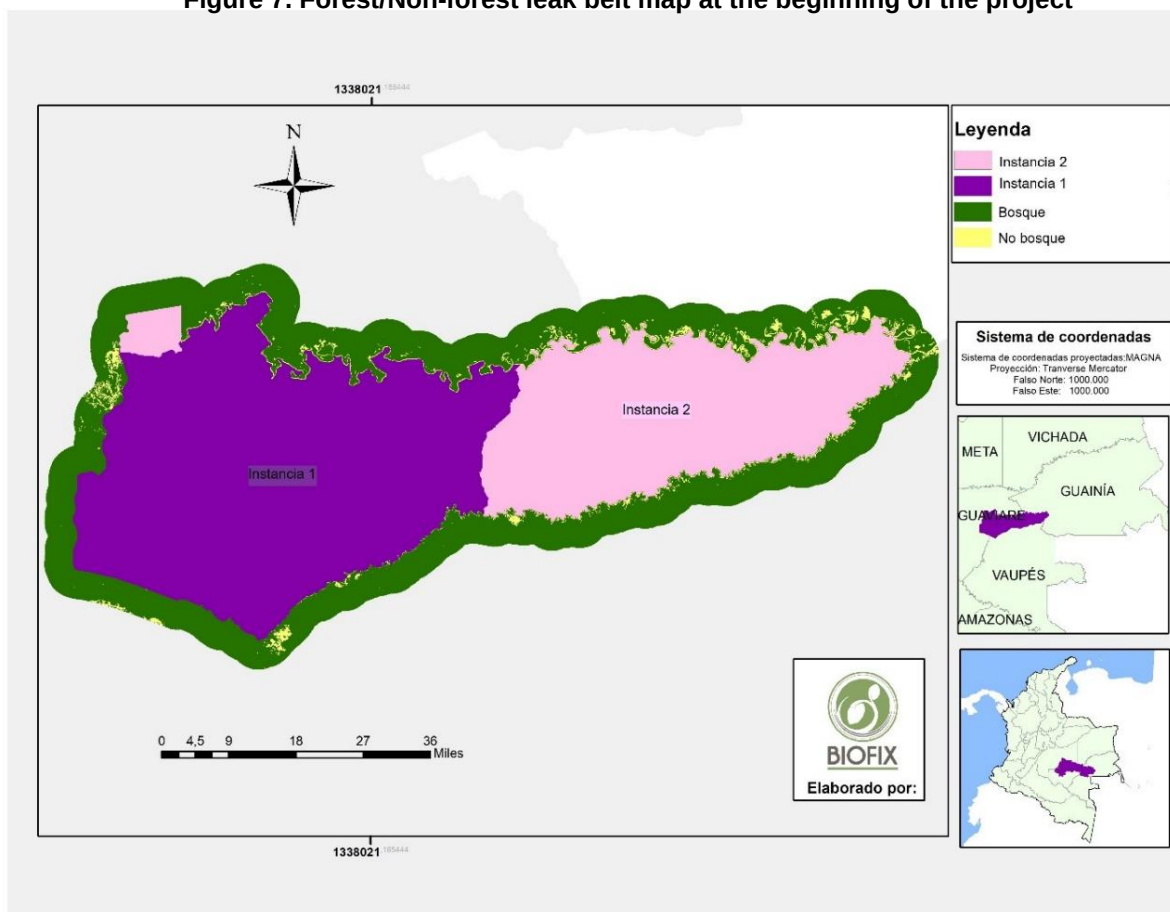
Figure 6. Forest/non-forest map of the leak belt 2005-2014



Source: YAWI IIPANA REDD+ Group Project

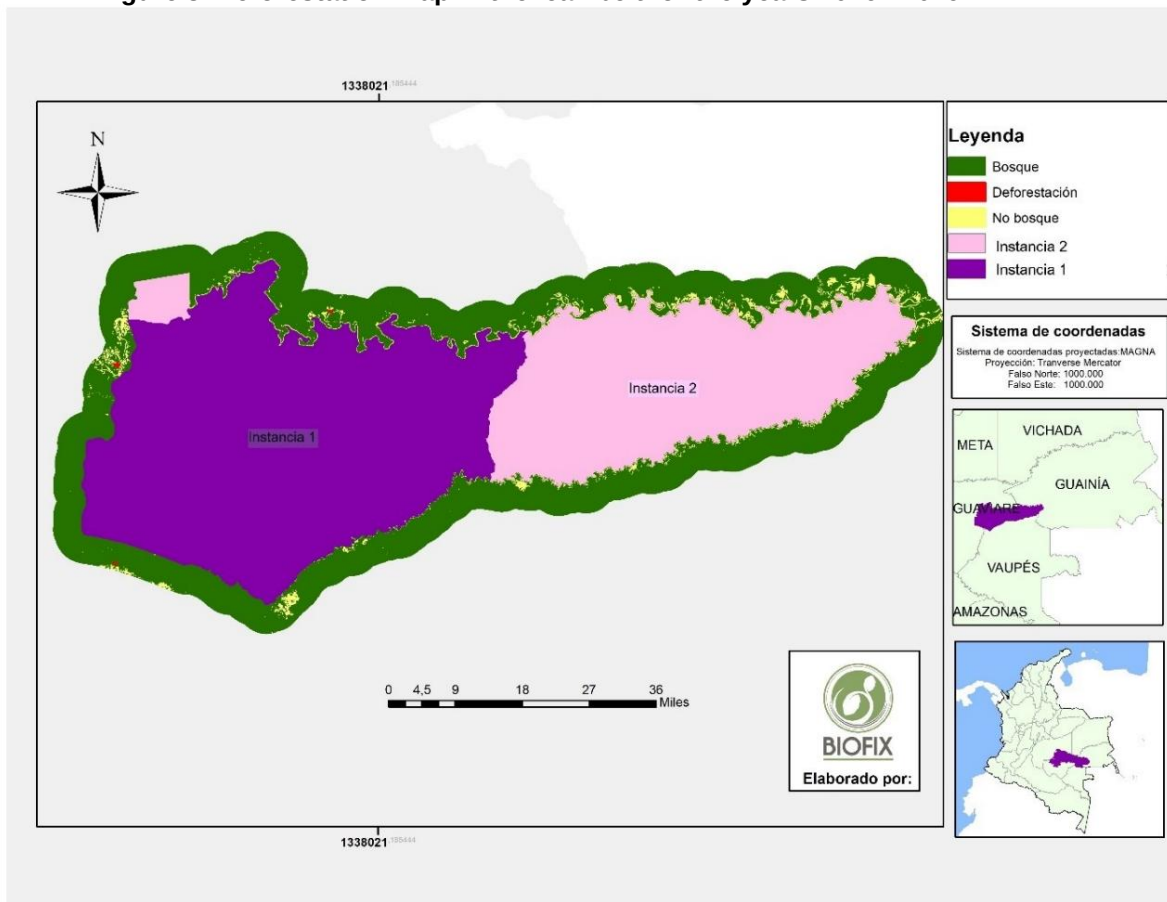
Grouped Project FAST IIPANA REDD+

Figure 7. Forest/Non-forest leak belt map at the beginning of the project



Source: YAWI IIPANA REDD+ Group Project

Figure 8. Deforestation map in the leak belt for the years 2016 - 2019



Source: YAWI IIPANA REDD+ Group Project

1.4.2.1.3 Reference Region (RR)

To determine the reference region, the following criteria and procedures were used:

- to.** The reference region area has similar natural forest forest areas to the project area and also meet the minimum area requirement, since the ratio between the forest area of the reference region and the eligible project area is 7.0 in 2016.
- b.** The reference area corresponds to areas of geographical zones of eco-systemic importance for the project area.
- c.** The reference area has the same land tenure conditions (collective territories: community councils and indigenous reservations)
- d.** Within the reference area there are exclusions due to land tenure factors of a private nature and/or registration of other REDD+ initiatives.
- and.** All parts of the reference region are easily accessible and reachable by deforestation agents.
- f.** The reference area has identified the same actors and drivers of deforestation identified for the project area in [section 2.5.1](#)

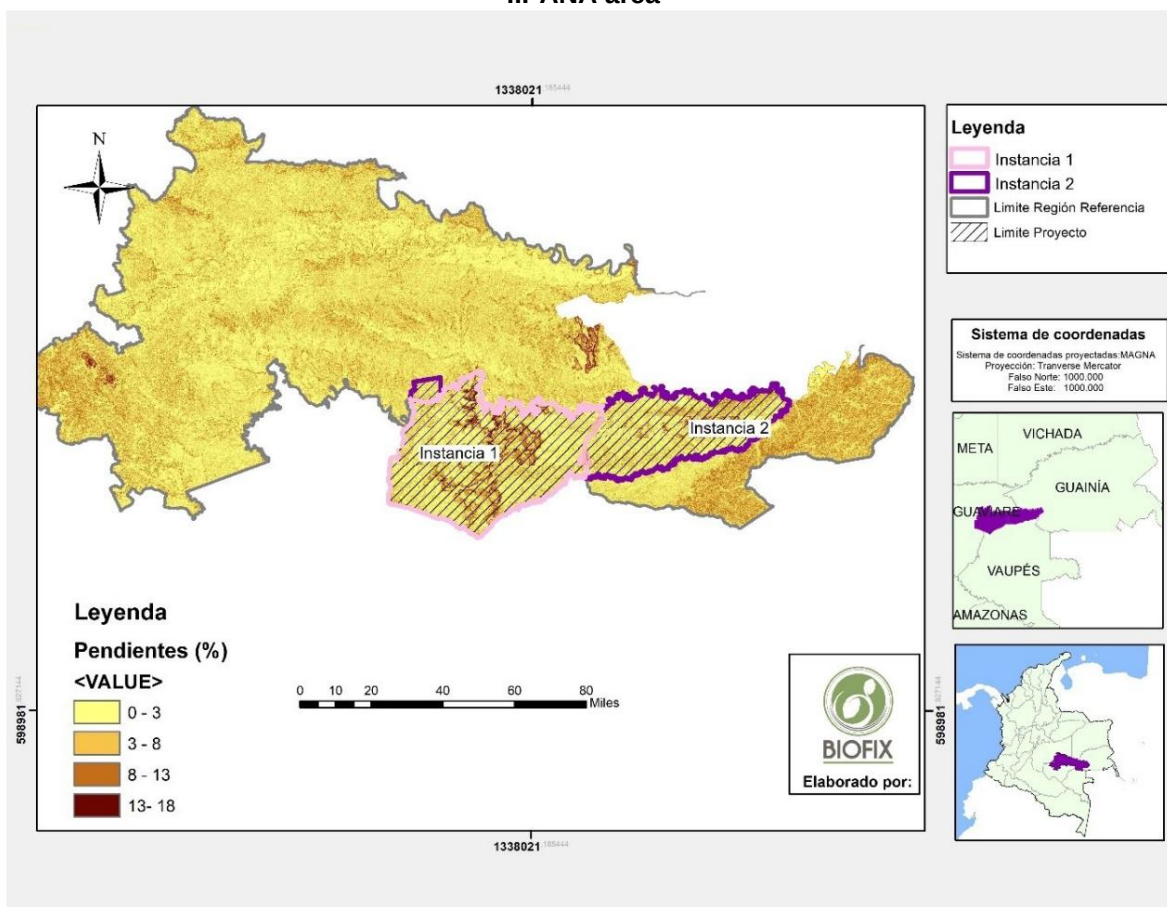
- g.** The reference region is adjacent to the project area, being adjacent to both two polygons, since their limits are continuous.
- h.** The reference region has the same life zones as the project area discussed in [section 1.6.2.4](#)
- Yo.** Reference region is not spatially biased relative to distance between the edge of the belt and the edge of the project area without a justification based on the mobility of the verifiers or landscape and transportation criteria as described in landscape factors and transportation factors.

Landscape factors:

These factors were determined by analyzing spatial databases (e.g., vegetation maps, land uses, and DEM (Digital Elevation Model) to generate slope and elevation), and were performed for both the project area and the reference region. According to the methodology, the criteria to take into account were:

- The forests present in RR have the same proportion as in the project area ($\pm 20\%$).
- Soil types that are suitable for the land use practice used by the main agents of deforestation in the project area must be present in the RR in the same proportion as the project area ($\pm 20\%$).
- The ratio of “gentle” (slope $<15\%$) to “steep” (slope $\geq 15\%$) slope classes in the project area should be ($\pm 20\%$) in the same proportion of the RRD.
- Elevation classes (500 m classes) in the RR must be in the same proportion as in the project area ($\pm 20\%$).

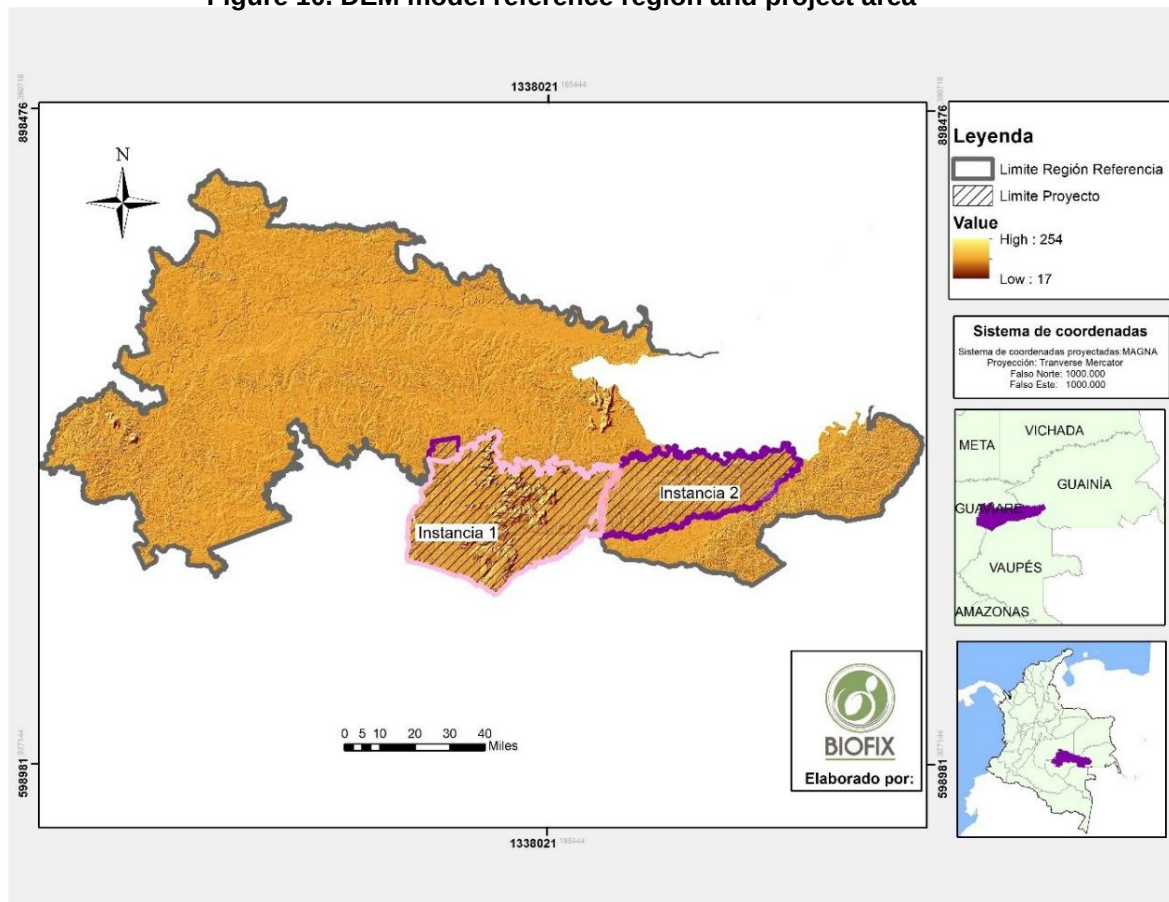
Figure 9. Map of slopes (%) of reference region and REDD+ Grouped Project REVIEW IIPANA area



Source. Grouped Project FAST IIPANA REDD+

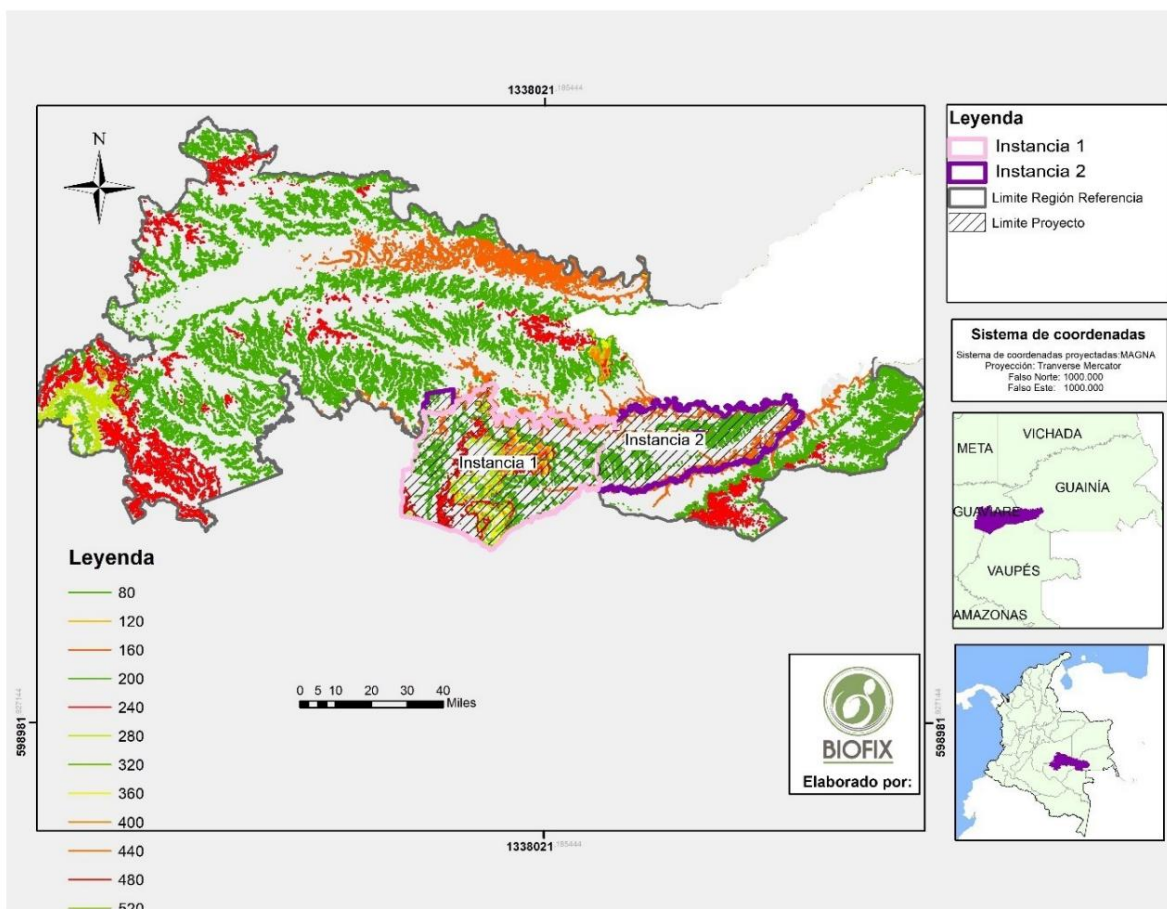
Grouped Project FAST IIPANA REDD+

Figure 10. DEM model reference region and project area



Source. Grouped Project FAST IIPANA REDD+

Figure 11. Elevation map of reference region and area of Clustered Project YAAWI II-PANA REDD+



Source. Grouped Project FAST IIPANA REDD+

Transportation factors: The following conditions must be met.

In the case where navigable rivers are located in the project area, the density (m/ km²) must be ($\pm 20\%$), both for the reference area and for the project area.

- Road density (m/ km²) should be ($\pm 20\%$) for the reference region as well as for the projected density (in the baseline period), for the project area (including a buffer of the total project area of at least 1 km).
- The settlement density (settlements/ km²) should be ($\pm 20\%$) for non-urban areas. forested areas with a 1 km buffer around the project area.

Below is the table with a summary of the criteria established for the spatial determination of the RR without project area:

Grouped Project FAST IIPANA REDD+

Table 8. Criteria for the spatial determination of the Reference Region instance 2 project start

Landscape factors	Project	Reference area Area (ha)	Proportion (%)
	Area (ha)		
Forest	31174,36	27002,77	23
ABA7 floor			
Typic Dystrudepts	1415,3	1678,83	18
Fluvaquentic Endoaquepts slope	489,7	569,7	16
<15% slope >15%	45,3	56,34	24
	0	0	0
Elevation <500	2537,6 0	2737,6 0	7
Elevation >500			0
Transportation factors			
Rivers density (km2)	69,3	84,76	22
Roads density (km2)	2,3	2,7	17
settlement density (km2)	0.14	0.18	28

Source. Grouped Project FAST IIPANA REDD+

Table 9. Criteria for the spatial determination of the Reference Region instance 1 project start

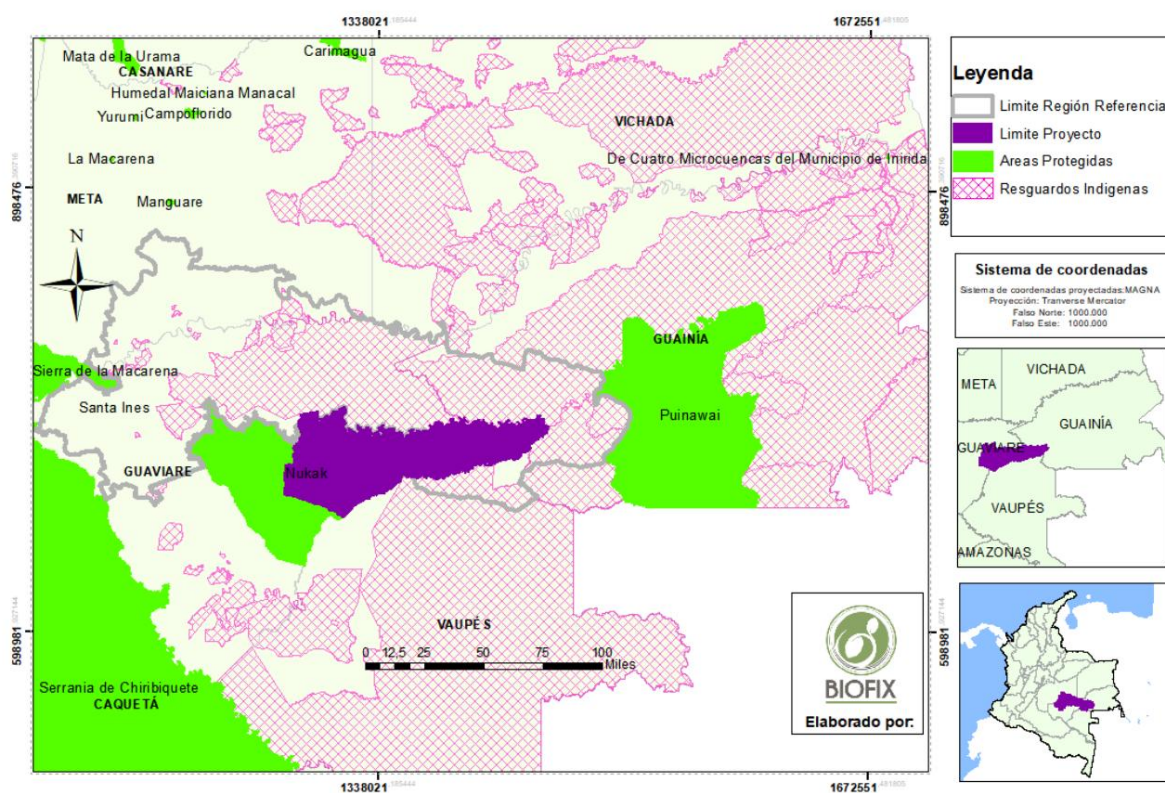
Landscape factors	Project	Reference area Area (ha)	Proportion (%)
	Area (ha)		
Forest	3991,26	27002,77	11
ABA8 floor			
Typic Dystrudepts	1321,3	1678,83	15
Fluvaquentic Endoaquepts slope	478,7	569,7	9
<15% slope >15%	48,1	56,34	22
	0	0	23
Elevation <500	2753,2 0	2737,6 0	22
Elevation >500			0
Transportation factors			
Rivers density (km2)	99.1	84,76	25
Roads density (km2)	3.6	2,7	25
settlement density (km2)	0.23	0.18	22

Source. Grouped Project FAST IIPANA REDD+

⁷ Soils with low activity clay minerals (ABA) are highly weathered soils in which 1:1 clay minerals and amorphous iron predominate, as well as aluminum oxides (in the BMR classification, acrisols are included, lixisols, nitisols, ferralsols, and durisols; the USDA classification also includes ultisols, oxisols, and acidic alfisols).

⁸ Soils with low activity clay minerals (ABA) are highly weathered soils in which 1:1 clay minerals and amorphous iron predominate, as well as aluminum oxides (in the BMR classification, acrisols are included, lixisols, nitisols, ferralsols, and durisols; the USDA classification also includes ultisols, oxisols, and acidic alfisols).

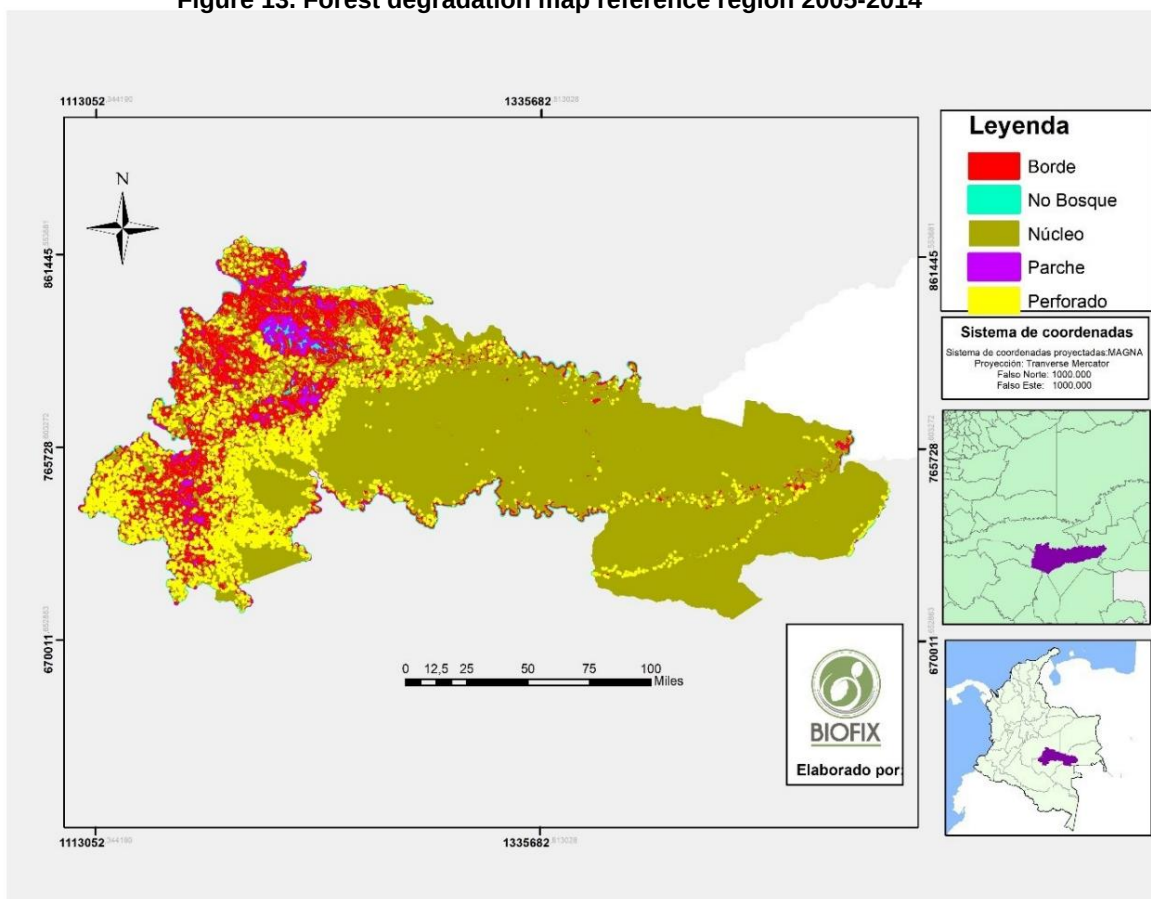
Figure 12. Reference region map Grouped Project RESPONSE IIPANA REDD+



Source: YAWI IIPANA REDD+ Group Project

Likewise, the cartography associated with the forest degradation processes in the reference region during the analysis of the historical period 2005-2014 is shown.

Figure 13. Forest degradation map reference region 2005-2014



Source: YAWI IIPANA REDD+ Group Project

On the other hand, the REDD+ initiatives, protected areas and other collective territories located within the reference region were geospatially reviewed, where it was possible to describe that there are 11 indigenous reservations within the region, as shown in the legend of the figure. Below, likewise, the closest REDD+ initiative cannot be seen within the scale of the map, however, it refers to the *Mataven REDD+ Project*. Finally, the closest protected areas are mentioned:

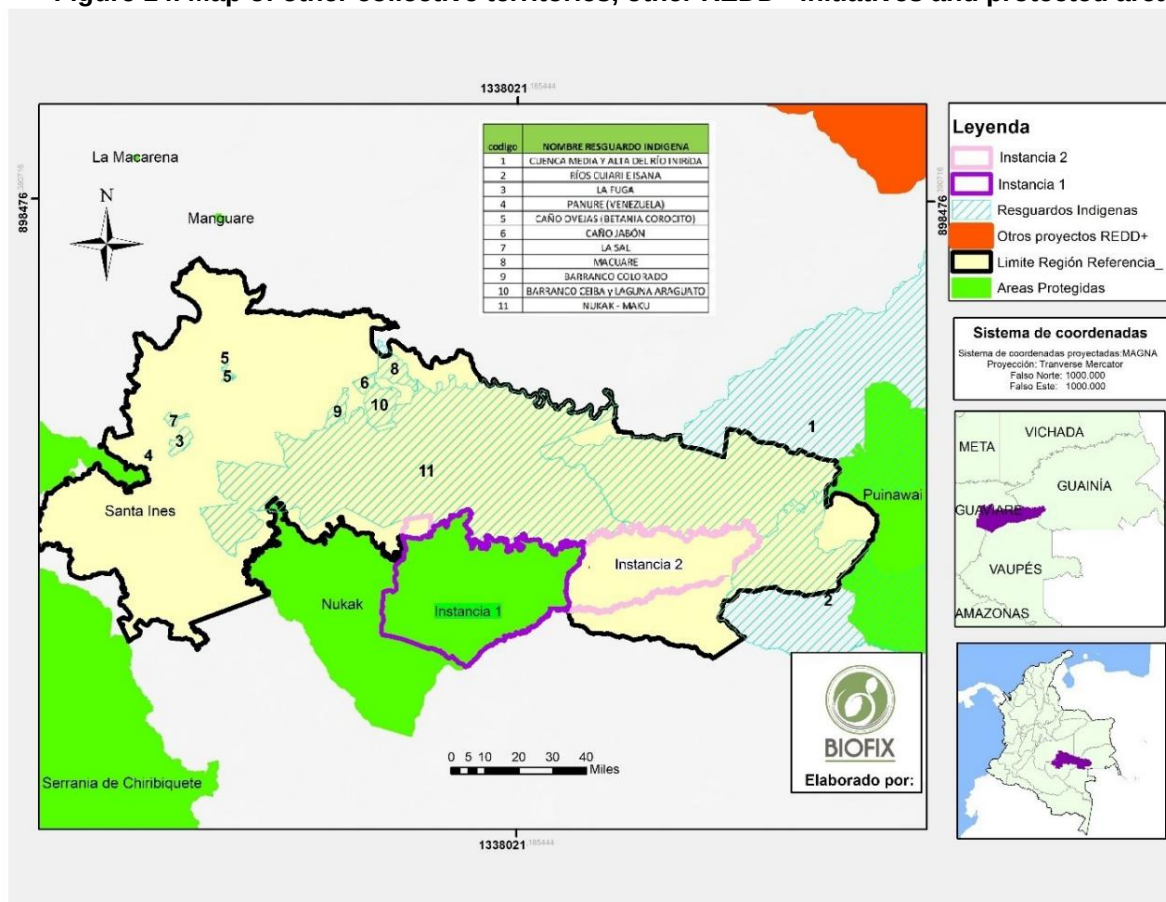
Table 10. Protected areas near the project reference region

SINAP category	Name of the protected area
National Natural Park	Serrania de Chiribiquete, Nukak, Sierra de la Macarena
Reserva Natural:	Fortune
National Protective Forest Reserves	Serrania La Lindosa - Angosturas II
Civil Society Natural Reserve	Manguare

Source: YAWI IIPANA REDD+ Group Project

Grouped Project FAST IIPANA REDD+

Figure 14. Map of other collective territories, other REDD+ initiatives and protected areas



Source: YAWI IIPANA REDD+ Group Project

Below are the extension for each of the areas of the project.

Table 11. Detailed Project area, leak belt, reference region

Limit	Year	Instance 2 (Forest) (ha)	Instance 1 (Forest) (ha)	Instances 1 and 2 (Forest) (ha)
Project area	2016	247.919	403.199	651.118
	2019	247,643	402,861	650.504
leak belt	2016	N/A/	N/	311.743
	2019	A	AN/	311.460
Reference region	2005	2,822,636	AN/	2.822.636
	A 2014	2,700,278	AN/	2.700.278

Source: Grouped Project IIPANA REDD+

1.4.2.1.4 Area of implementation of project actions

The project implementation areas refer to the areas where the proponent of the YAAWI IIPANA REDD+ Grouped Project can execute the activities of the lines of action described in Annex 16 of this document. Due to the nature of these activities that frame several dimensions of local development (social, economic and

environmental), the implementation area is in the eligible and non-eligible areas of the REDD+ project, but always within the area of the proposing indigenous reservation.

1.4.2.1.5 Segments of the REDD+ GHG-PRR

Within the area of the proposing indigenous reservation, the analysis of the deforestation segment and the degradation segment was carried out for the eligible area (natural forest area) of the project, given the characteristics of the relationship of the communities with the forest cover, that is, the eligible area of the YAAWI IIPANA REDD+ Grouped Project applies equally to both segments of the activities included in the quantification of emissions reductions.

1.4.2.2 Time limits

The YAAWI IIPANA REDD+ Grouped Project has an accreditation period of 20 years, beginning on January 1, 2016 and ending on December 31, 2035. Likewise, the verification time period contemplates a duration of 4 years between the beginning of the 2016 and the end of 2019 for the activities of the degradation segment and 3 years, starting in 2017 for deforestation, both will apply only to instance 1, because the segments of instance 2 have already been verified and canceled by the other standard.

Finally, although the accreditation period is 20 years, the duration of the lines of action and useful life of the project extends to 30 years, in coherence with section 6.7 of the Cercarbono Protocol V. 4.1

Table 12. Verification, accreditation and duration dates of the Project

Start date	January 1, 2016
Completion Date	December 31, 2045
Useful Life Period	30 years
Accreditation Period	20 years (January 1, 2016 to December 31, 2035)
Retroactivity Date	January 1, 2016
Verification Period	Instance 1 Downgrade (January 1, 2016 – December 31, 2019) Deforestation (January 1, 2017 – December 31, 2019) Instance 2 (N/A)

Source: YAAWI IIPANA REDD+ Group Project

1.4.2.2.1 Accreditation Period

The accreditation period of the YAAWI IIPANA REDD+ Grouped Project is 20 years, it begins on January 1, 2016 and ends on December 31, 2035. The baseline projection was made on that same period, however, it will be reviewed every 5 years according to the CERCARBONO standard. Additionally, it is proposed to carry out annual or bi-annual verifications, depending on the activities generated in the project formulation phase.

1.5 Ownership or right to use the area

The ownership of the lands of the YAAWI IIPANA REDD+ Group Project are awarded to the proposing indigenous reserve Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz,

Caño Danta and others, through Award Resolutions No. 045 of 1998 respectively, issued by the Colombian Institute of Agrarian Reform (INCORA).

The above, within the framework of the regulatory background related to Law 31 of 1967, where Article 11 provides for the recognition of the right to property, collective or individual, in the areas that indigenous communities have historically occupied, in order to, through the Article 8 of Decree 2001 of 1988 assign powers to the Board of Directors of the Colombian Institute of Agrarian Reform (INCORA) to establish land reservations for indigenous communities. Reason why, the land allocation resolution was issued by said institution and is legally protected. In this way, the proposing reservation is the owner of the collective property and its usufruct, as well as the carbon credits and marketable carbon credits.

On the other hand, the differentiated ethnic communities that are part of the aforementioned Indigenous Reservation, making use not only of their rights of autonomy and free determination or self-determination, but also of the legal capacity that has been legally granted, which allows you to enter into contracts under the terms of civil and commercial law - Decree 1088 of 1993-, is dictated through the Temporary Association Contract, the granting to Biofix Consultoría SAS in its capacity as structuring of the project, the express power to generate the issuance and commercialization of carbon credits (Reductions of certified GHG emissions) derived from the territory in which the Indigenous Reservation exercises its jurisdiction.

Consequently, the parties in question agreed that Biofix will carry out, under its exclusive responsibility, the activities aimed at achieving the validation, verification, certification and withdrawal of the certified emission reduction units before the competent entities, as well as the activities with relative to its marketing.

Likewise, within the contract it was agreed that the ownership and rights over the carbon credits issued in the territories in which the REDD+ project is developed will be owned by the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, however, the right to issue and market these bonds is exclusive to the company Biofix⁹. This section is described in the governance analysis. nance, land ownership and legal representation of collectively owned territories in REDD+ projects (Annex 9)

It should be noted that, in the process of implementing the lines of action established in the general assembly for approval of the project (annex 6) and recently updated (annex 7), Biofix as a development partner also provides support in the technical and financial review. of the investment projects presented autonomously by the proposing reservation, in order to preserve coordination with the objectives of REDD+ activities and their respective lines of action (annex 16). These investment projects

⁹ Documentary support of the power granted to the company in the commercialization of carbon credits rests on the certifier's platform under the template "power of attorney with withdrawals"

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They are formulated and executed at the initiative of the reservation, safeguarding its autonomy and worldview as an indigenous reservation.

1.6 Characteristics and conditions prior to the start of the PMCC

Next, the social, demographic, economic, climatic, hydrographic conditions and other biophysical parameters of the project area, such as El Retorno and San José de Guaviare in Guaviare, are presented. To see the information in more detail, you can consult annex 15.

It should be noted that the previous conditions of the project are the same as the conditions of the baseline scenario.

1.6.1 Socio-economic parameters

Both instances of the YAAWI IIPANA REDD+ cluster project are being developed in the Guaviare department of the Amazon biome, since, the Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and other Indigenous Reserves are located in most of the area in the municipality of El Retorno, however, a portion of the reserve's territory sits in the San Jose del Guaviare.

1.6.1.1 Demographic Context

Below is the number of inhabitants per territory of interest referring to the project area, counted by DANE in the National Population and Housing Census in 2018.

Table 13. Population distribution by territory involved of the REDD+ IIPANA Clustered Project

Of-part-ment	Territory	Population			census on
		Total	Fits-cera ur- To me	Casco rural	
Gua-viare	Return	14.306 3.825		10.481	16.9%
	San Jose of the Guaviare	58.206 40.512		17.694	9%

Source: Adapted from the National Population and Housing Census (DANE, 2018b)

Regarding the demographic conditions of the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, according to the census carried out in the Life Plan in 2015, the reservation is made up of 11 communities, 905 people and 230 families, where the largest demographic composition occurs in the community of Morichal Viejo, being 40% of the total population of the reservation and the towns of Puinave and Curri-paco predominate (See table below).

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Table 14. Demographic composition of the Old Morichal Indian Reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others by community, gender, etarian distribution and registered year 2015 ethnic group

COMMUNITY	No people	FAMILIES	ETHNICITY
Pupuña Port	39	11	76% Puinave 23% Curripaco
Puerto Cumare	41	8	46.4% Puinave 44% Curripaco 7% Mestizo 2.6% White
Cerro Cocuy	90	19	44.4% Puinave 43.3% Curripaco 6.6% Mestizo 3.3% Reload 1.2% Cubeo 1.2% White
Loma Linda ¹⁰	32	11	Corripaco Puinave
The Remanso or Caño Interest	43	13	53.5% Puinave 18.6% Curripaco 16.3% Mestizo 11.6% White
Long Flow	82	20	29% Puinave 7.3% Curripaco 27% Mestizo 8.5% Repost 7.3% Guanano 9.8% White 9.8% Piratapuyo
Santa Cruz	79	14	37% Cubeo 63% Curripaco
Puerto Ceiba	43	9	72% Curripaco 25.6% Yurutí 2.32% Puinave
Morichal Viejo	333	76	33% Puinave 24% Curripaco 17% Mestizo 5.1% Tuyuca 4.5% White 6.3% Cubeo 1.8% Tukano 2% Yurutí, snow, piapoco, afo 6.3% Piratapuyo
Santa Rosa	93	35	66.7% Puinave 9.7% Curripaco 5.4% Mestizo

¹⁰ For the year in which the census was carried out, Loma Linda had not yet been defined and approved by the other captains as a reservation community, which is why the information is partial.

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			10.7% Cubeo 7.5% White
High Ravine	26	14	84.6% Puinave 7.8% Mestizo 3.8% Cubeo 3.8% Afro
TOTAL	901	230	

Source: Adapted from the Life Plan (Ministry of Justice & UNODC, 2016) & Population Census of the Indian Reservation gena Old Morichal, Santa Rosa, Cocuy Hill, Santa Cruz, Danta Canyon and others, (2019)

1.6.1.2 Social Context

1.6.1.2.1 Education

Understanding the educational context in the reservation assigned to the Grouped Project YAAWI IIPANA REDD+, part of the analysis of the situation at the departmental and municipal levels presented below:

Table 15. Net coverage in percentage associated with the educational level of the population of the study territories

Education level	Net Coverage (%)	
	San José del Guaviare	The Return
Transition	32.2	20.9
Primary education	60	39.6
Secondary Education	53.5	29.9
Middle education	27.4	20.9

Source: Graphs taken and adapted from the municipal and departmental characterization sheets of the DNP (2019) with data from the Ministry of National Education from 2017.

Another aspect is related to the quantity and quality of educational facilities, the department of Guainía, such as the municipalities of El Retorno and San José del Guaviare, present deficiencies in their infrastructure and basic conditions, which reduces the quality service they offer. This factor can be analyzed in depth in Annex 15.

Finally, the panorama within the indigenous reservation, which has the Association of Indigenous Authorities of Guainía – ASOCRIGUA II as the educational operator for part of its school-age population, which presents similar problems regarding the inadequate institutional headquarters and low quality of the program (Guaviare Government, 2016).

1.6.1.2.2 Health

Regarding the health component, San José del Guaviare is one of the municipalities that has the best provision of health services, more than El Retorno, which only has the provision of first-level services in the urban area.

Another analysis factor is related to the coverage of the type of regime of the department, for example, for El Retorno 45.9% of the population is affiliated with the regime.

subsidiary equivalent to 11,294 people, while in San José del Guaviare 82.5% (57,061 people) are reported registered in the databases of the Ministry of Health and Social Protection, as of December 2019 (DNP, 2018b)

Below are other indicators used to measure the health component of the territories involved.

Table 16. Indicators related to the health component, national and departmental level

INDICATOR	NATIONAL	GUAVIARE
Mortality Rate (x every 1,000 inhabitants)	4.75	4.03
Infant Mortality Rate (under 1 year old)	11.3	16.9
Minor vaccination coverage for 1 year	91.3	86.8
Maternal mortality rate at 42 days	45.29	79.24

Source: Adapted from (DNP, 2018a, 2018b)

On the part of the Morichal Viejo Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, of the 11 communities, only 3 have their own health post and do not have the basic quality conditions and supplies to provide the service. Additionally, there is no

an articulation between traditional and ancestral medicine, as well as the difficulty of communication between residents with native language and doctors with Spanish in the effective diagnosis and treatment of patients (Ministry of Justice & UNODC, 2016)

1.6.1.2.3 Housing

The infrastructure and the type of housing in which residents live is of vital importance to guarantee a dignified life and well-being for people. However, the department of Guaviare presents worrying figures for public service coverage and qualitative housing deficit, well below the national average. Since, they have a large amount of territory and dispersed rural population, which makes it difficult to access and guarantee basic housing and sanitary conditions in their population, see table below.

Table 17. Comparison of access to public services in homes in the territories of interest

Territory	Access to Public Services (%)		
	Aqueduct	Energy	Internet
Colombia	76,8	87,8	13,2
San Jose of the Guaviare	74	50,5	2,9
Return	51.7	17,6	0,1

Source Data taken from DNP, (2019) based on: Rural Electric Energy (UPME, 2016). Aqueduct and Sewer (Superintendency of Public Services, 2016). Internet (ICT Ministry, 2018)

Now with regard to the materials used for the construction of houses in the res-guardo Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, thatch or palm roofs stand out with species such as platanillo or tarriango standing out, carana, watsipe, punepje, guayacana, inaya palm and mapanare palm. Walls in clay or macanillos, stick shells, rods, wasai sty; floors in dirt, doors woven with the

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palm buds; the use of yaré vine ties to replace the laces; wooden sticks to make the beams (starch or purple flower) and columns (using species such as acaricuara or cuyubi) (Ministry of Justice & UNODC, 2016).

1.6.1.2.4 Unmet Basic Needs (UBN)

According to the National Population and Housing Census (CNPV) carried out by (DANE, 2018a), the methodology of Unsatisfied Basic Needs – NBI aims to determine if the needs of the population are covered, taking indicators such as inadequate housing, overcrowding, school failure of minors, high economic dependency and housing with inadequate services; in this way, the indicator is associated with the quality of life, well-being and conditions of the study population.

Table 18. Unmet Basic Needs NBI disaggregated by territory contemplated by the Grouped Project YAAWI IIPANA REDD+

Dept.	Territories	Unsatisfied Basic Needs by Category %						
		Close to People in NBI (%)	Close to Lost-nas in misery	Component the same	Ser- component vices	Compo- nente Hacina- l lie	Compo- nent Inasis- tenancy	Eco- dependence component nomic
Cauca	San Jose of the Guaviare	23,68	8,40	13,98	7,98 2,13	5,93		6,30
	The Return 16.64 1.37	31,73	9,04	14,90		1,73		8,39

Source: Retrieved from the National Population and Housing Census (DANE, 2018a)

1.6.1.2.5 Ethnic Belonging

The Morichal Viejo reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, in the characterization carried out in 2015 in the formulation of the Life Plan, details the ethnic composition, see table 18, in which you can appreciate greater representation of the Puinave and Curipaco peoples and the presence of some settlers who cohabit in the communities.

Table 19. Ethnic composition of the indigenous reserve of Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others

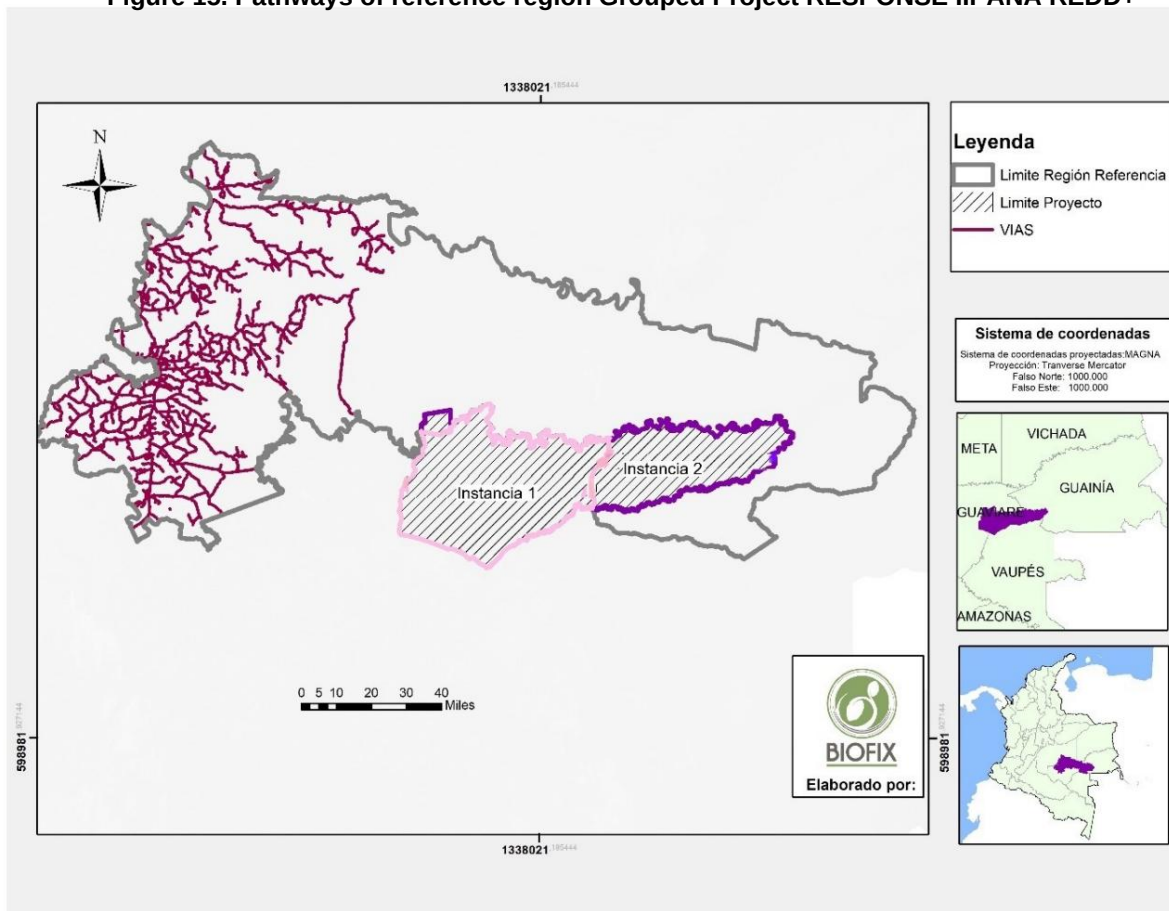
Ethnicity	%	Number of people
Puinave	36.7%	330
Corripaco	27.7%	249
Cubeo	6.9%	62
Mestizos	11.5%	103
Tuyuca	1.9%	17
Piratapuyo	3.2%	29
Tukano	1.8%	16
Yuruti	1.5%	14
Guanano, Desano, Piapoco, Skull, Afro	1.3%	12
White	4.1%	37
Unidentified	3.4%	32
Total	100%	901

Source: Adapted from the Life Plan of the RI Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others (Ministry of Justice & UNODC, 2016).

1.6.1.3 Economic Context

For this analysis, the Departmental Competitiveness Index 2020-2022 will be used as a reference¹¹ as an indicator¹¹ which serves to measure the economic situation of the departments of the country. It is a very complete tool that has a structure of 4 factors, 13 pillars and 102 indicators, characterizing each department according to its living conditions, human capital, market efficiency and innovative ecosystem. On the other hand, the access roads in the reference area are presented below.

Figure 15. Pathways of reference region Grouped Project RESPONSE IIPANA REDD+



Source: YAWI IIPANA REDD+ Group Project

Currently, Guaviare occupies the last positions in the rating, being 28 out of 33 total positions, which is a critical situation for the department. Added to the low contribution of each department to the National GDP (Private Competitiveness Council, 2021)

¹¹ Departmental Competitiveness Index prepared by the Private Competitiveness Council for the year 2018. Obtained from <https://compite.com.co/indice-departamental-de-competitividad/>

With respect to the productive dynamics of the reservation, the main economic activities are linked to meeting traditional requirements such as food, housing, family, among others. Likewise, there is a relationship between cultural traditions and the services provided by the ecosystem, considering activities specific to each sex in the family. Such as hunting, fishing, agriculture, art collection, mining, animal husbandry, wood extraction.

Figure 16. Important products in the productive economy of the indigenous reserve belonging to the YAAWI IIPANA REDD+ Group Project



Yuca Brava

Manihot esculenta Crantz.



Caimaron or caima grapes

Pourouma cecropiifolia



Mapuey

Dioscorea affines Kunth



Cashew

Western cashew



Page

Cuniculus paca



patava

Oenocarpus spp.



Chestnut or mountain cocoa

Pachira aquatica



Pupuña palm or chon-taduro

Bactris gasipaes



Caribbean fish

Pygocentrus cariba



Cajuche

Tayassu fishermen



Palma de moriche

Mauritia flexuosa; Lf



mountain turkey

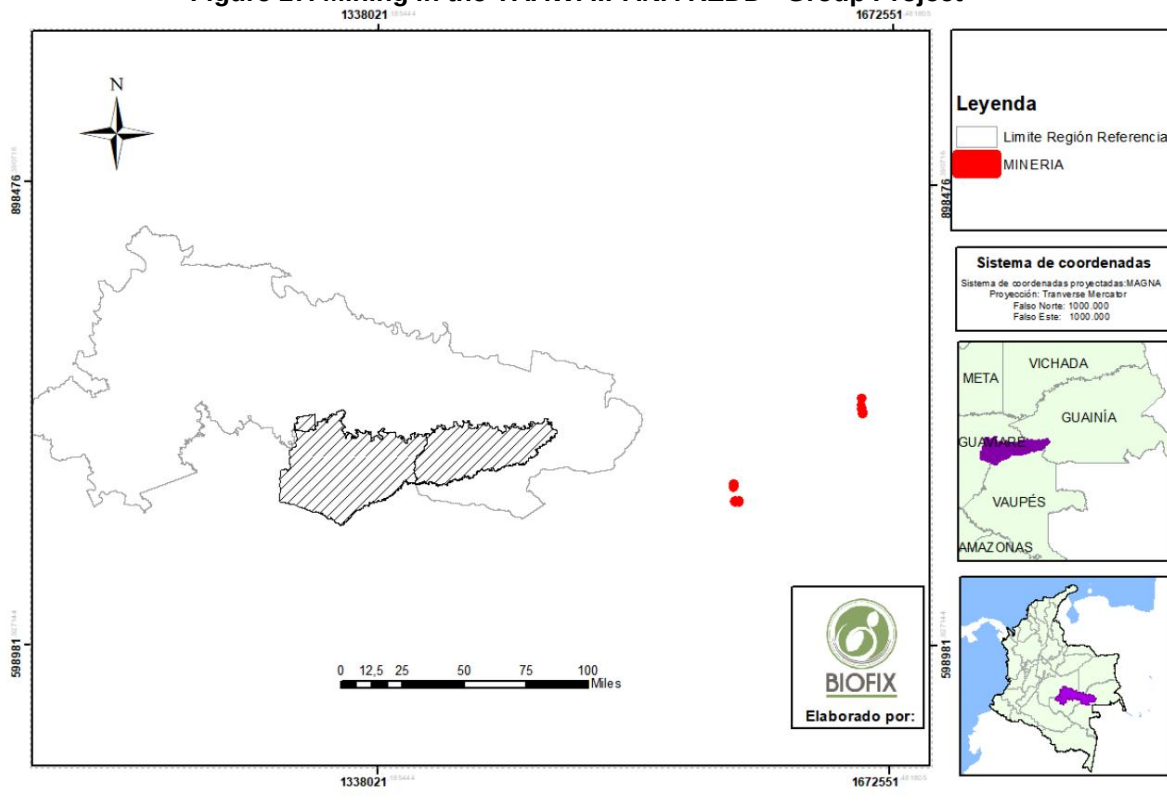
Penelope obscura

Source: Adapted Life Plan (Ministry of Justice & UNODC, 2016) & SIIC (2017)

Finally, although this mining activity generates income for the residents of the region, it entails negative impacts on the ecological component of the area, therefore, it is important to identify such activities in the reference region, as shown in the following map.

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Figure 17. Mining in the YAAWI IIPANA REDD+ Group Project



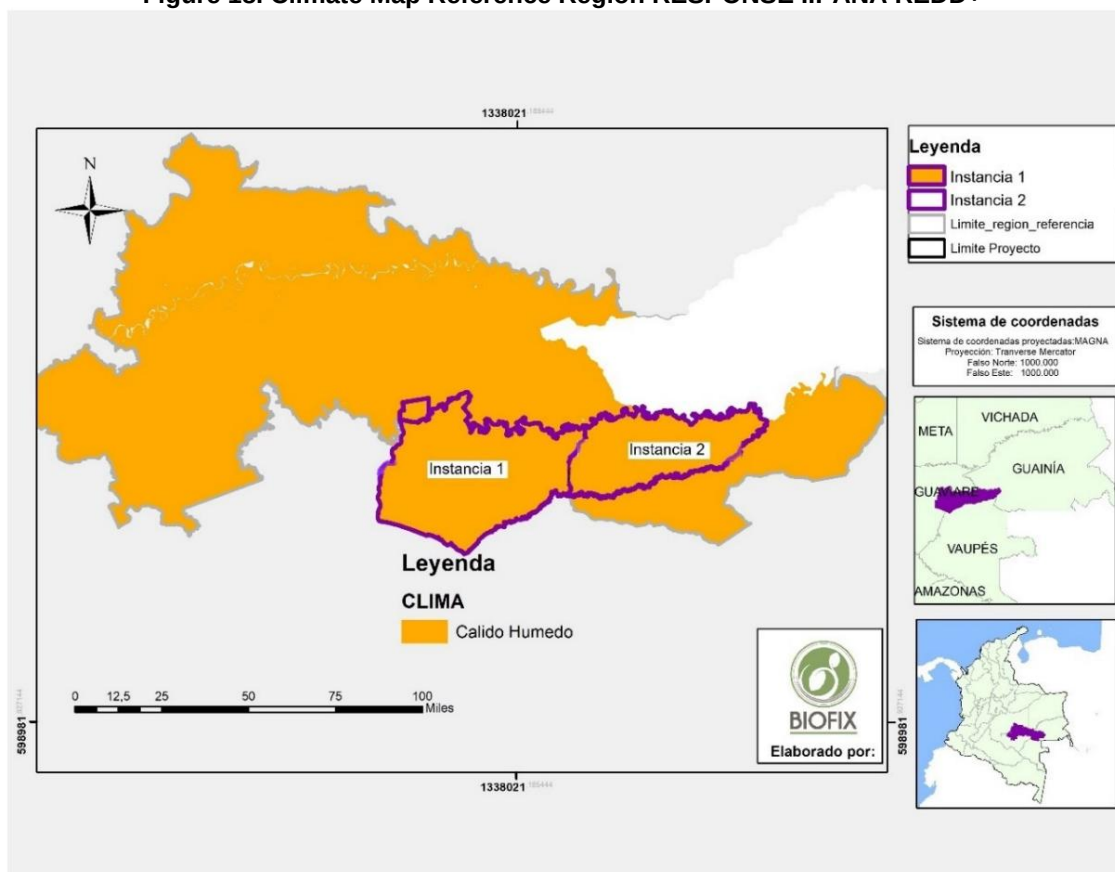
Source: YAWI IIPANA REDD+ Group Project

1.6.2 Climatic conditions

1.6.2.1 Climatology

The territories of El Retorno and San José del Guaviare, due to their geographical location, present particular climatological patterns of a transitional jungle, combining the sheets of the Orinoquia with the humid Amazonian jungle, which are defined by regional meteorological, orographic and geographical factors. and global that influence the dynamics of precipitation, temperature, solar irradiation, humidity or presence of winds.

Figure 18. Climate Map Reference Region RESPONSE IIPANA REDD+



Source: YAWI IIPANA REDD+ Group Project

For a better analysis, the climatic characteristics of precipitation and temperature are presented by municipality in each department.

Table 20. Average monthly precipitation behavior, El Retorno and San José del Guaviare municipalities

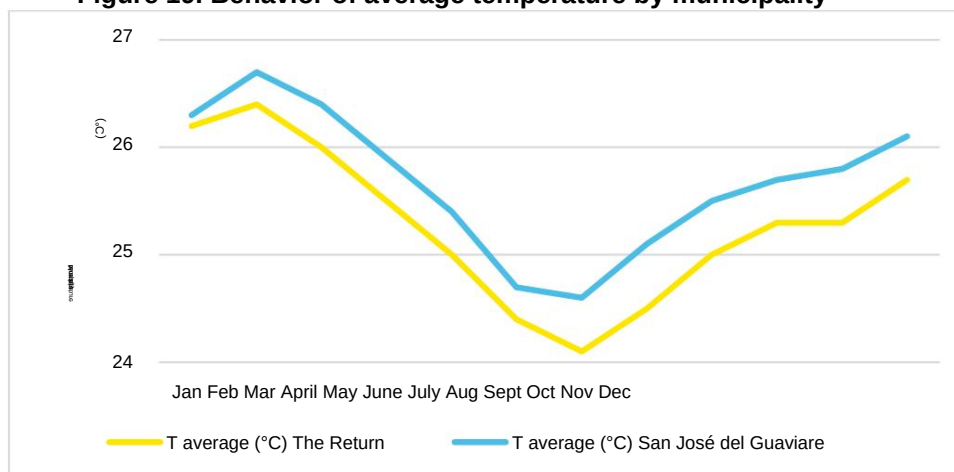
	Jan	Feb	Mar	Apr	May	Jun			Jul	Ago	Sep	Oct	Nov	Dic	ȳ			
P ȳ (mm) El Return	58,7	84,1	193,6	308,3	377,2	370,9	350,1	273,1	239,3	278,9	208,6	122,4	249,3					
P ȳ (mm) San Joseph of the Gua-viare	44,6	94	153,2	319,7	353,6	355	334,9	273,1	237,1	235,4	225	99,9	238,7					

Source: from Climatological Stations San José del Guaviare (32105070) and El Trueno (3101501) (IDEAM, 2017, 2019)

Table 21. Average monthly temperature behavior, minimums and maximums of the municipalities of El Retorno and San José del Guaviare

	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sept	Oct	Nov	Dic					
T ȳ (°C) Return	26,2	26,4	26	25,5	25	24,4	24	1	24,5	25	25,3	25,3	25,7	25,2			
T ȳ (°C) San José del Guaviare	26,3	26,7	26,4	25,9	25,4	24,7	24,6	25,1	25,5	25,7	25,8	26,1	25,6				

Source: from Climatological Stations San José del Guaviare (32105070) and El Trueno (3101501) (IDEAM, 2017, 2019)

Figure 19. Behavior of average temperature by municipality

Source: from Climatological Stations San José del Guaviare (32105070) and El Trueno (3101501) (IDEAM, 2017, 2019)

Regarding sunshine in the municipality of El Retorno, it has a maximum of 6 hours of sunshine per day, in the months with the highest temperatures. (Von Humboldt Institute & IDEAM, 2014). While, the Relative Humidity is between 80.7% and 90.7%. (IDEAM, 2017).

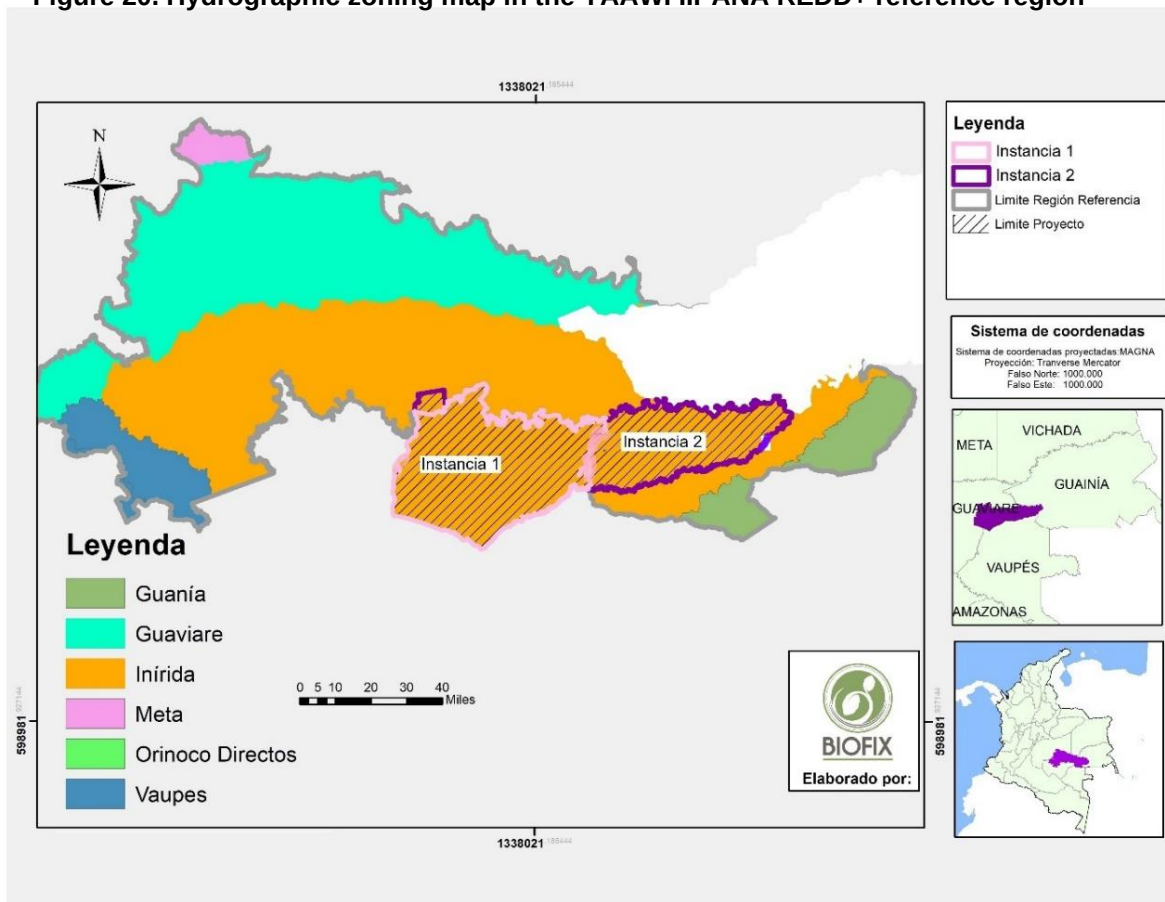
Finally, the wind speed of the Orinoquía region and the Amazon show a monomodal behavior with speeds less than 1 m/s up to 3 m/s (IDEAM, 2017).

1.6.2.2 Hydrography

In the Amazon, the river network has historically been the traditional means of colonization and penetration, in addition to being the main means of transportation, not only through the main channels of the rivers, but also through the tributaries and pipes¹²; The area is bathed by two large rivers, the Guaviare and the Inírida, which drain into the Orinoco and Amazon basins. Depending on the origin of the rivers, they may have a high sediment load, low levels of transparency, rich in hydrobiological resources, with greater contributions of nutrients, as is the case of the Guaviare River, or because they present high contents of humic acids and low turbidity. as is the case of the Inírida River. (SINCHI & CDA, 2006).

¹² The pipes can be divided into temporary type ones generated in the winter period and other type permanent which are born in low and open forests. (SINCHI & CDA, 2006).

Figure 20. Hydrographic zoning map in the YAAWI IIPANA REDD+ reference region

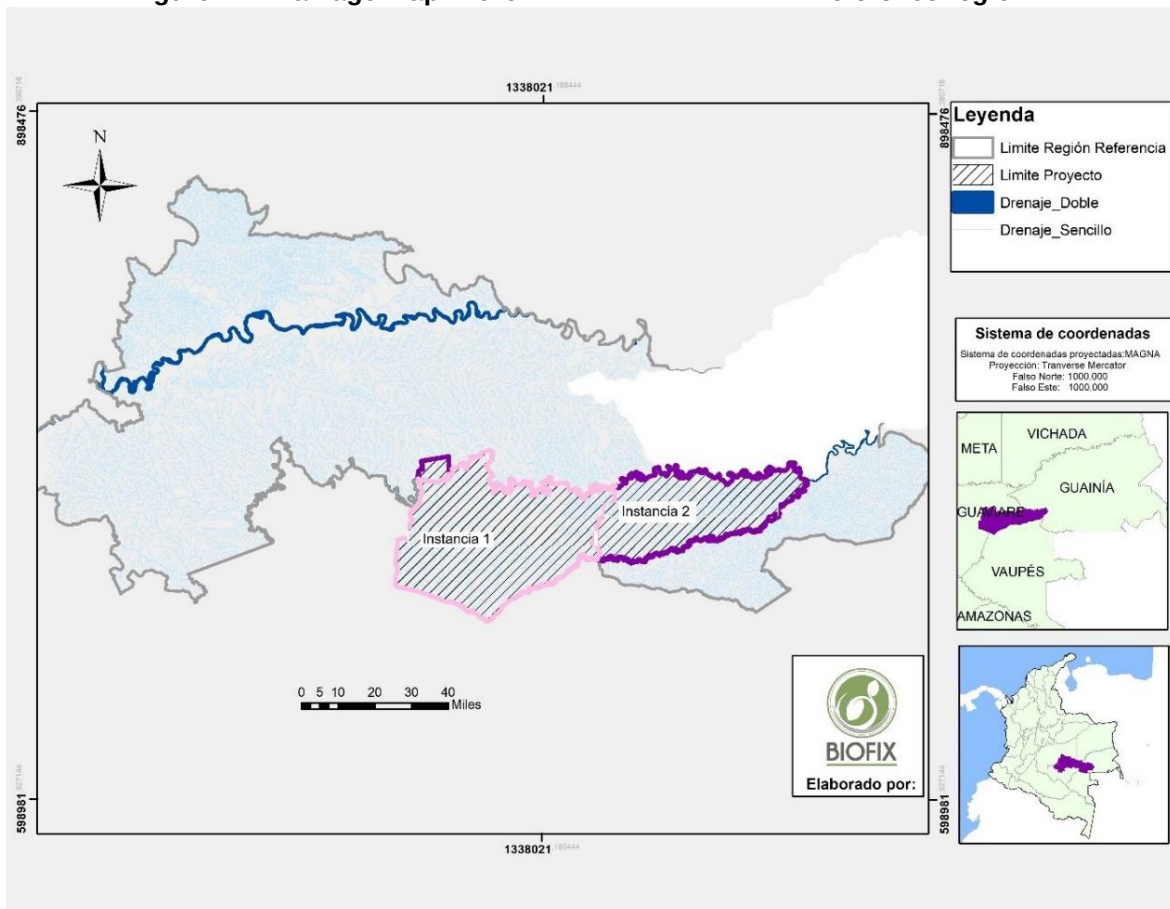


Source: YAWI IIPANA REDD+ Group Project

Related to the tributaries identified in the life plan of the Mo-richal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, the following water sources are identified

- **Rapids:** Danta, Largo.
- **Canes:** Lemon, Kiniquari, Oil, Red, Morichal, Colorado, High Beach, Donkey, Elijah, Macu, Flare, Danta, Cajuche, Cajuche Two, Dirty.
- **Rivers:** Inírida, Papunaua.
- **Lagoons in El Retorno:** Paloma, Grande, Mateo, Bejuco, Tupi, Penca I, Penca II, Redondo, Caimán, Mafia, Macu, Pligure, Moori, Gallineta, Grillo, Paloma, Pupuña, Tucunare, Majia.
- **Lagoons in San José del Guaviare:** Caribe, La Pepa, Cachire, Batata, Colibrí, Sabana, Mirito, Salado, Jaiwog, Paye.

Figure 21. Drainage map in the YAAWI IIPANA REDD+ reference region



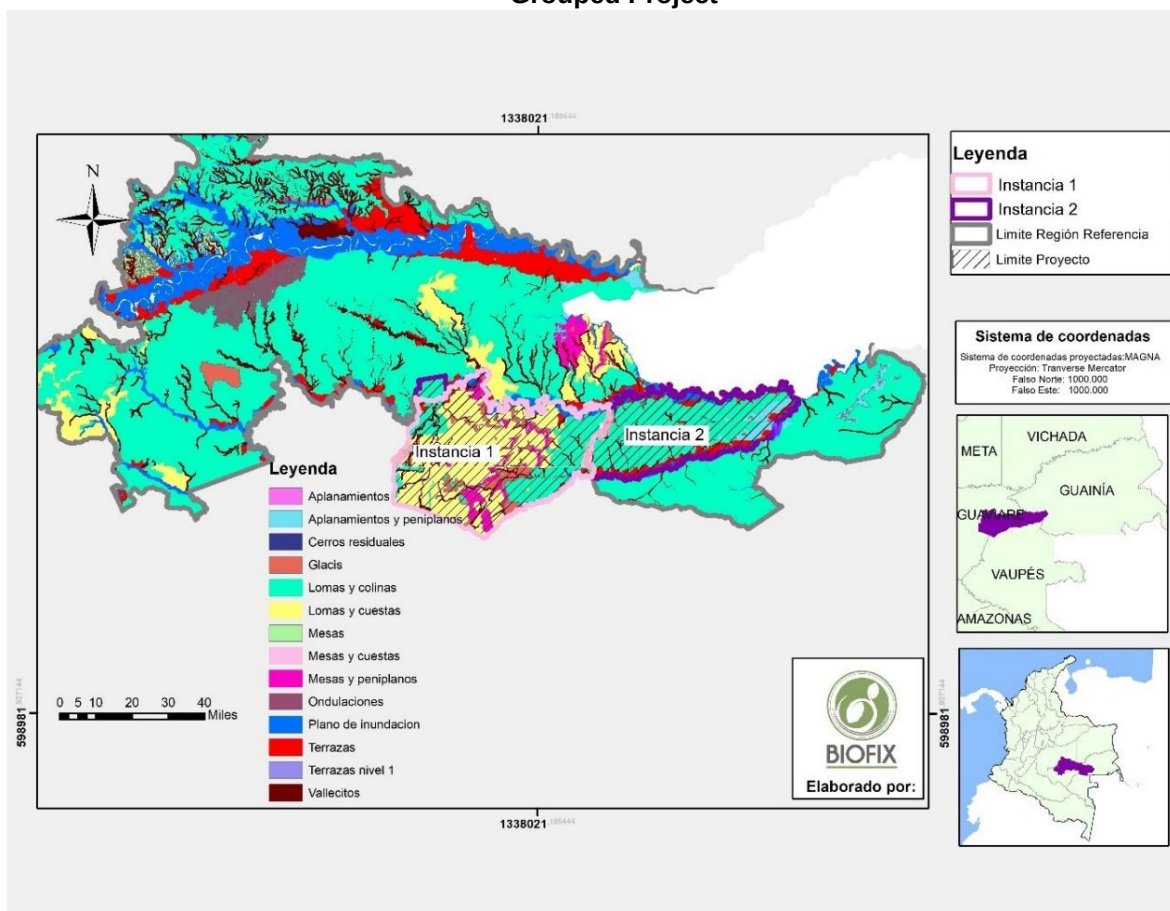
Source: YAAWI IIPANA REDD+ Group Project

1.6.2.3 Geology and Geomorphology

The stratigraphy of the Guaviare department, more specifically towards the municipalities of El Retorno and especially San José del Guaviare, is characterized by the outcrop of igneous and sedimentary rocks and deposits of different ages. The igneous rocks are represented by the Nepheline Syenite of San José del Guaviare, while the sedimentary rocks correspond to the San José Formation, the Caja Formation and the various types of Quaternary deposits that were the product of alluvial activity (Arango et al., 2011). On the other hand, in the department 5 geofoms are identified: Holocene flood plains, undulating terrain, savanna terrain, mountain ranges, and hills.

However, the map below shows the types of relief of the reference region of the YAAWI IIPANA REDD+ Grouped Project.

Figure 22. Map of the relief types of the reference region of the YAAWI IIPANA REDD+ Grouped Project

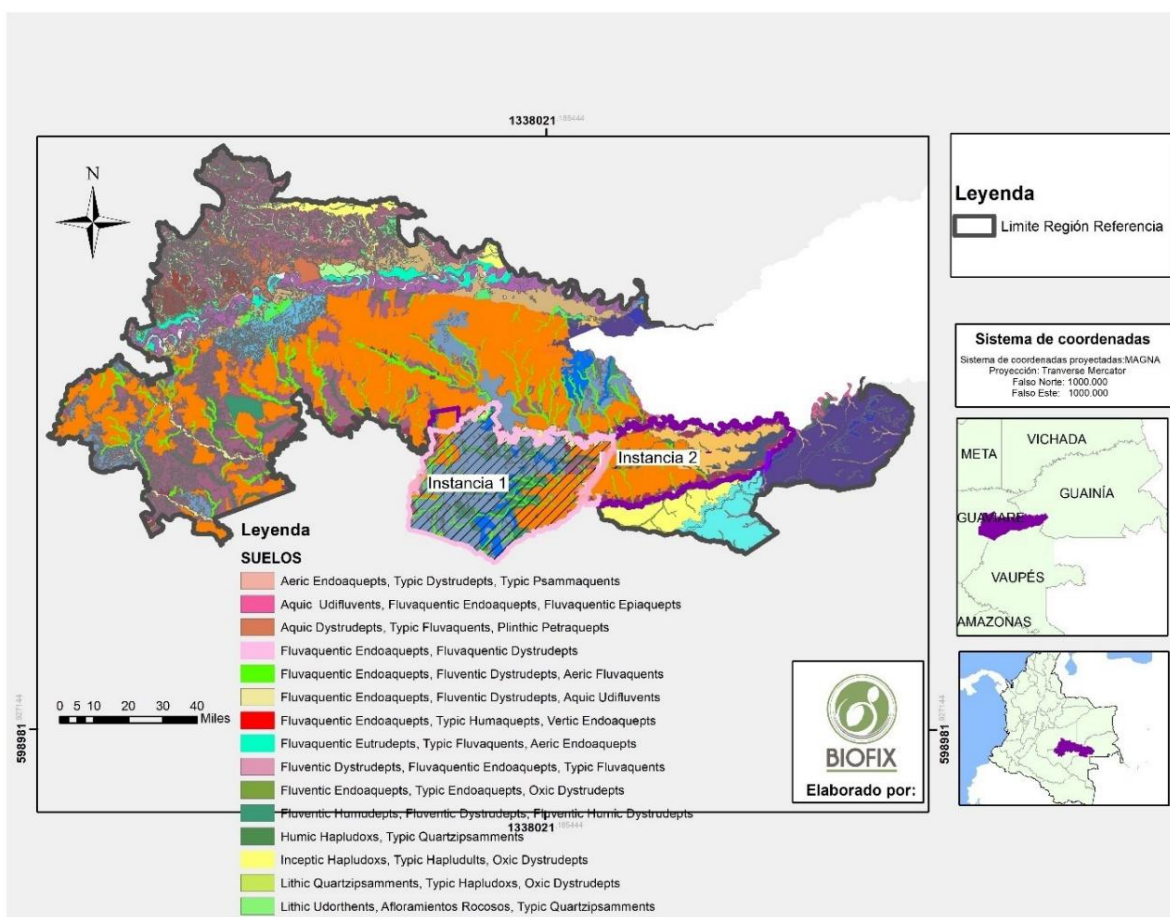


Source: YAAWI IIPANA REDD+ Group Project

The pedology of the Guaviare department is composed of mostly poor soils, corresponding to Amazonian alluvial and sedimentary plains, with black water plains¹³ and irregular planes. The agrological classification is V, whose material and parental lithology defines fine and very fine alluvium of moderate to low potential fertility in the plains, and unconsolidated sandy and clayey sediments on the mainland. They are characterized by their low fertility due to acidity and low organic matter content, which limits their potential for low-intensive agriculture with rotating crops (INCORA, 1998).

¹³ It is clarified that the term black water refers to the rivers of Amazonian origin that have under organic matter content and reduced supply of fish. (Ministry of Justice & UNODC, 2016)

Figure 23. Soil type map in the reference region Grouped Project RESPONSE IIPANA REDD+



Source: YAWI IIPANA REDD+ Group Project

Now, the situation of the forests and ecosystems is highly affected by the phenomena of deforestation, increased in the Amazon region, which despite the attempts to mitigate and control this phenomenon, the department of Guaviare at the national level always occupies the highest deforestation rates (CDA, 2020).

1.6.2.4 Life Zones

Life zone or biome is understood as the basic unit of ecological classification, based on annual biotemperature, total precipitation and the ratio of potential evapotranspiration, data from which natural areas that may have had some degree of human intervention or influence, but in which landscapes, vegetation, fauna and other key factors for the fulfillment of the ecosystem function still predominate (Holdridge, 1967).

Considering the above, the dominant life zone in the department is the Tropical Humid Forest (Bh-T), which is characterized by having rainfall between 2000-4000 mm.

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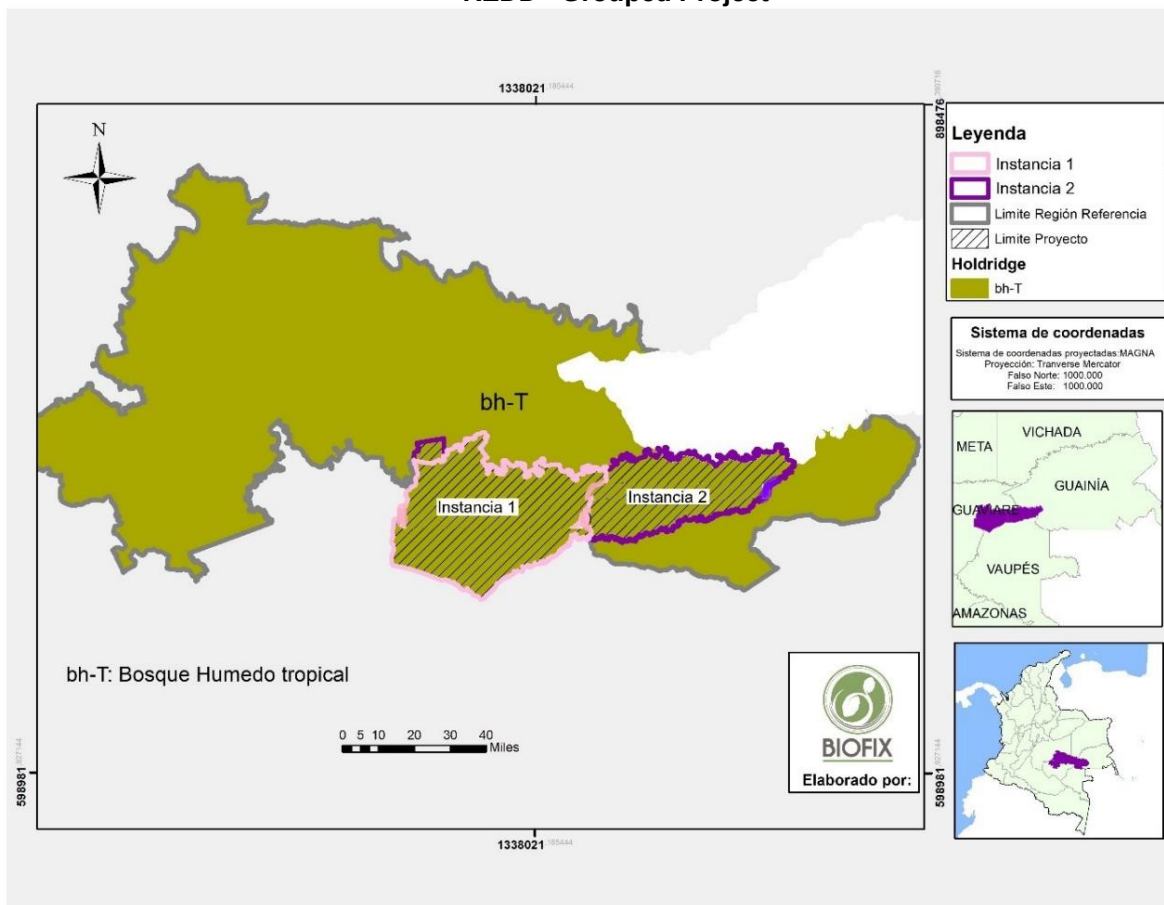
and temperatures greater than 24 °C (Gutiérrez Rey, 2002). As evidenced in the following table and map.

Table 22. Living Zone Conditions of the reference region Grouped Project RESPONSE II-PANA REDD+

Thermal Floor	Altitudinal Floor	Life Zones
Warm wet	Tropical	Tropical Humid Forest Bh-T

Source: YAWI IIPANA REDD+ Group Project

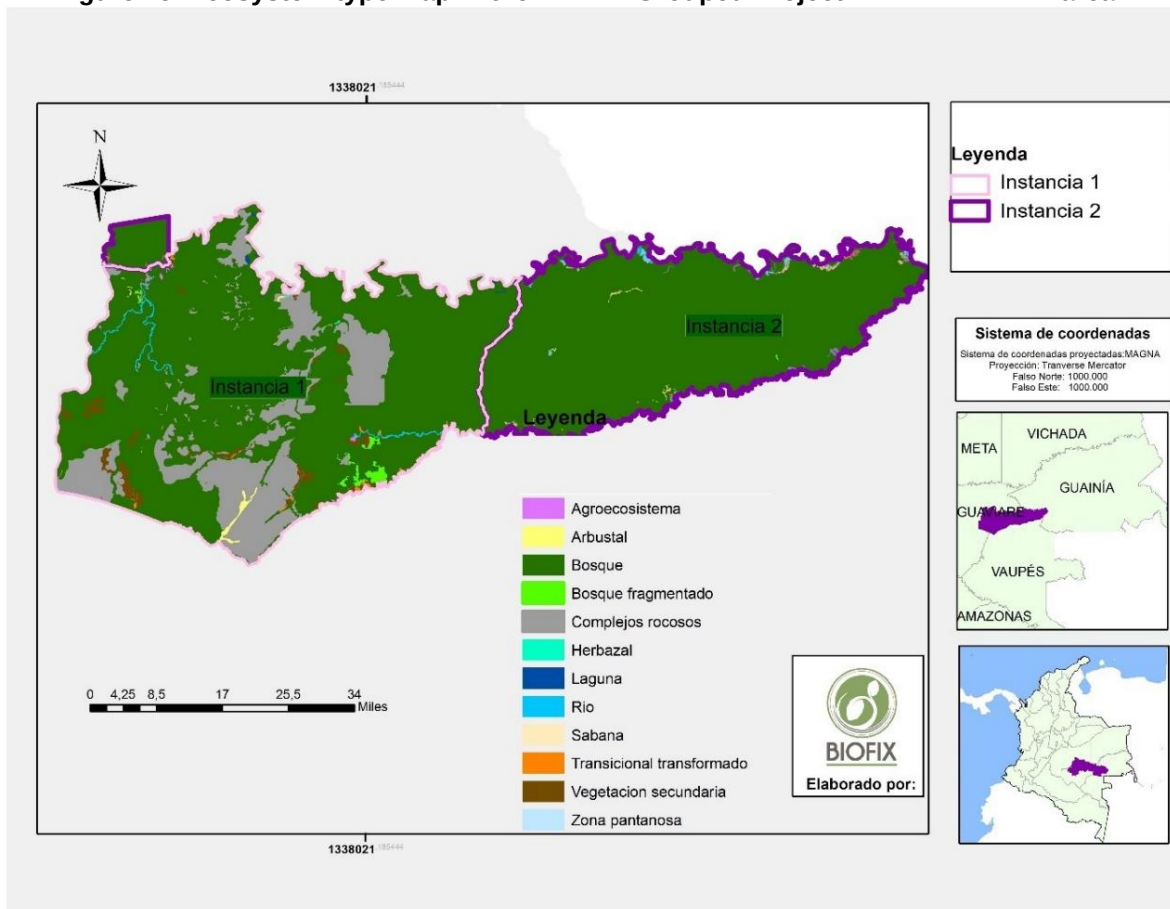
Figure 24. Map of living zones in the reference region and area of the YAAWI IIPANA REDD+ Grouped Project



Source: YAWI IIPANA REDD+ Group Project

With respect to the types of ecosystems present in the reference region and in the area of the YAAWI IIPANA REDD+ Grouped Project, through remote sensors and geospatial analysis, 12 types of coverage were determined (See figure 28).

Figure 25. Ecosystem type map in the REDD+ Grouped Project REVIEW IIPANA area



Source: YAWI IIPANA REDD+ Group Project

1.6.2.5 Biodiversity

The biodiversity of the study area is directly related to the remnants of the Guayanes Shield, plus the Amazonian ecosystems and considering the high rainfall of the region (Gobernación del Guainía, 2020).

1.6.2.5.1 Septofauna

With respect to the faunal component of the herpetofauna, the following tables summarize the most relevant species of the territories that are part of the YAAWI IIPANA REDD+ Grouped Project along with the species that are cataloged with some range of threat in respect.

Table 23. Herpetofauna of the Orinoco-Amazon region registered in some degree of threat

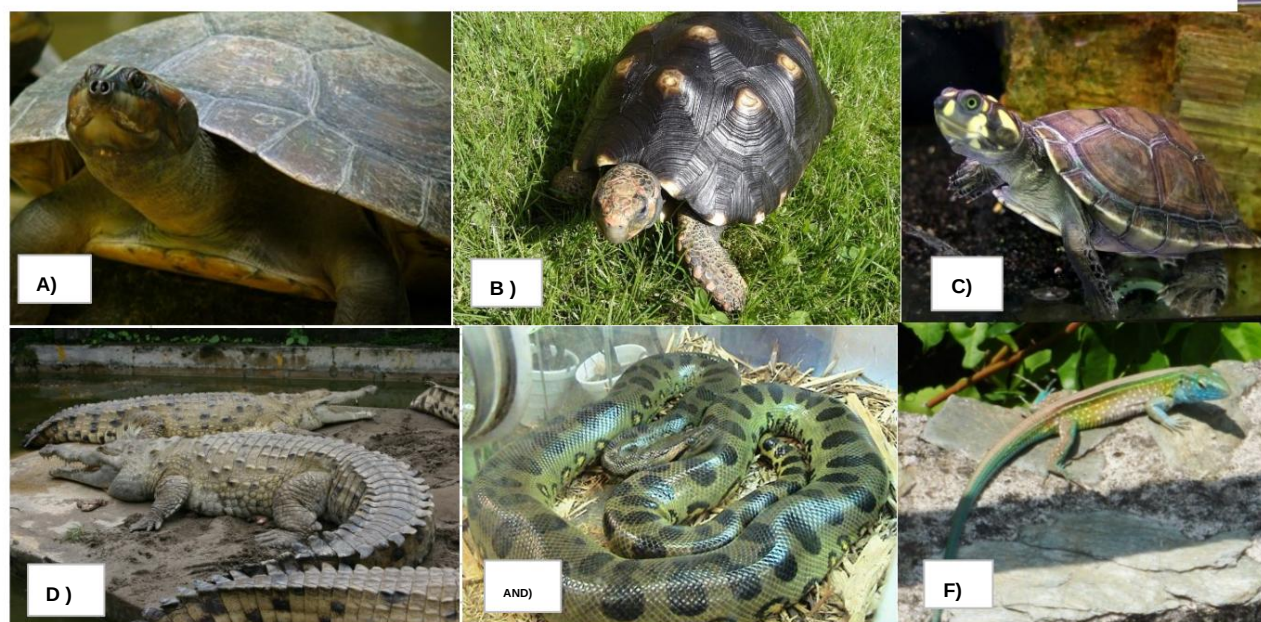
Scientific name	Common name	Threat Degree
<i>Podocnemis expansa</i>	Turtle character	Critical
<i>Podocnemis unifilis</i>	tericay tortoise	Endangered
<i>Podocnemis vogli</i>	Savannah river turtle	almost threatened
<i>Podocnemis erythrocephala</i>	Tortuga sacrifice	Vulnerable

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<i>Chelonoidis carbonarius</i>	Tortuga morrocoy	Critical
<i>Chelus fringed</i>	Tortuga mata mata or caripatua	Almost Threatened
<i>Chelonoidis denticulata</i>	Yellow-footed land turtle	Endangered
<i>Peltocephalus dumerilianus</i>	bigheaded turtle	Vulnerable
<i>Crocodylus intermedius</i>	Orinoco crocodile	Critical
<i>Caiman crocodile</i>	Babilla	Critical
<i>Caiman crocodile apaporiensis</i>	Spectacled Caiman / Cachirre	Critical
<i>Allobates ranoides</i>	Villavicencio jumping frog	Critical
<i>Siphonops annulled</i>	Culebrita tapiera	Minor concern

Fuentes. Prepared from (CDA, 2016; Morales, et al., 2015; Rueda, et al., 2004; Trujillo et al., 2016; IUCN., 2019)

Figure 26. Amphibians and reptiles of economic or commercial importance in the Orinoco-Amazon region



A) *Podocnemis expansa*. B) *Chelonoidis carbonarius*. C) *Podocnemis unifilis*. D) *Crocodylus intermedius*.

E) *Eunectes murinus*. F) *Cnemidophorus lemniscatus*

Fountain. Photographs taken from (SIB Colombia., 2019)

1.6.2.5.2 Ornitofauna

Colombia is home to a highly diverse birdlife worldwide, which translates into significant economic and environmental potential, especially for rural and indigenous communities that lack income and development opportunities (Renjifo et al., 2016).

Table 24. Birdlife of the Orinoco-Amazon region and degree of threat

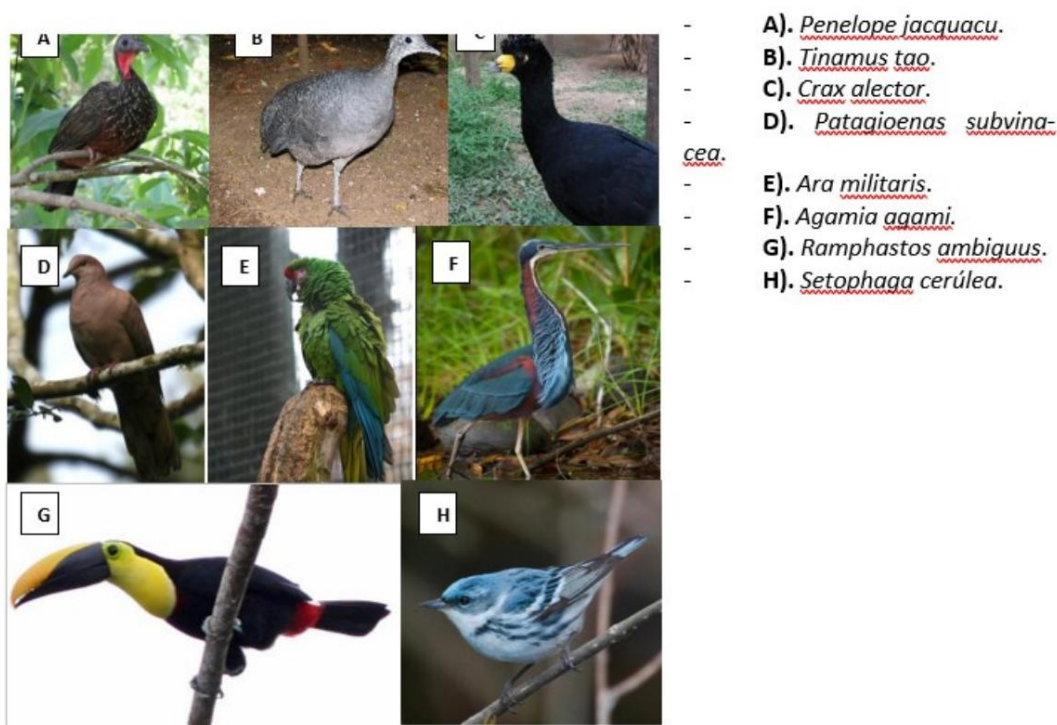
Scientific Name	Threat Level	Common name
<i>Tamamus people</i>		gray tinamou
<i>Pipile cumanensis</i>		Pav the goliath
<i>Crax alector</i>		Paujil culiblanco

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<i>Pauxi pauxi</i>	Stone-crested Curassow	Endangered
<i>Agamia agamí</i>	Agami Heron	Vulnerable
<i>Patagioenas subvinacea</i>	vinous dove	Vulnerable
<i>Ramphastos is doubtful</i>	black-billed toucan	Vulnerable
<i>I'm sorry</i>	red-winged parakeet	Vulnerable
<i>Touit stictoptera</i>	Cotorrita's tail	Vulnerable
<i>The military arena</i>	military macaw	Vulnerable
<i>Thamnophilus tenuipunctatus</i>	vermiculated batará	Vulnerable
<i>Setophaga cerulea</i>	Reinita cerúlea	Vulnerable
<i>Sporagra yarrellii</i>	Yellow-faced Goldfinch	Vulnerable
<i>Crypturellus columbianus</i>	Colombian Tinamou	Endangered
<i>Neochen jubata</i>	carter duck	almost threatened
<i>Polytmus guainumbi</i> Minor concern	Plains Hummingbird	

Sources. Prepared from (Acevedo, et al., 2014; IUCN., 2019)

Figure 27. Birds of economic or commercial importance



Fuente. Fotografías tomadas del (SIB Colombia., 2019)

1.6.2.5.3 Mast fauna

A large part of the mammals distributed in the Eastern Plains are part of the Amazonian fauna, although in a lower proportion and degree of diversity. According to (Pérez, et al., 2009), 318 species of mammals are recorded for the Orinoco basin, distributed in 12 orders, 40 families and 156 genera. This number of species represents 68.7% of the Colombian mammals.

Table 25. Mammals of the Orinoco basin and the jurisdiction of the CDA that are in some degree of threat

Scientific name	Common name	Threat Degree
<i>Puma is the same color</i>	<i>Puma</i>	<i>almost threatened</i>
<i>Panthera onca</i>	<i>Jaguar</i>	<i>Vulnerable</i>
<i>Long-tailed otter</i>	<i>Nourish the river wolf</i>	<i>Vulnerable</i>
<i>A terrestrial tapir</i>	<i>common tapir</i>	<i>Vulnerable</i>
<i>Weeping with goblets</i>	<i>Viewed</i>	<i>Endangered</i>
<i>Lonchorhina orinocensis</i>	<i>Bat</i>	<i>Endangered</i>
<i>Myrmecophaga tridactyla</i>	<i>Palmer anteater</i>	<i>Vulnerable</i>
<i>Aotus lemurinus brumbacki</i>	<i>night monkey</i>	<i>Vulnerable</i>
<i>Pteronura brasiliensis</i>	<i>Water dog</i>	<i>Endangered</i>
<i>Tayassu fishermen</i>	<i>White-chinned peccary</i>	<i>almost threatened</i>
<i>Puma yagourandi</i>	<i>Yaguarundi</i>	<i>Vulnerable</i>
<i>leopard leopard</i>	<i>Ocelote</i>	<i>Vulnerable</i>
<i>Trichechus inunguis</i>	<i>sea cow</i>	<i>Vulnerable</i>
<i>Priodontes maximus</i>	<i>Ocar the giant armadillo</i>	<i>Vulnerable</i>
<i>Sotalia fluviatilis</i>	<i>Gray river dolphin</i>	<i>Vulnerable</i>
<i>Ateles belzebuth</i>	<i>Spider monkey</i>	<i>Endangered</i>
<i>Inia geoffrensis</i>	<i>Calm down</i>	<i>Endangered</i>

Sources Elaborado a partir de (CDA, 2016; Defler & Rodríguez, 2015; Trujillo et al., 2016)

Figure 28. Mammals of the Orinoco-Amazon region



A) *Tapirus terrestris*, B) *Puma concolor*, C) *Panthera onca*, D) *Myrmecophaga tridactyla*, E) *Hydrochoerus hydrochaeris*, F) *Cebus albifrons*, G) *Alouatta seniculus*, H) *Tamandua tetradactyla*, I) *Diclidurus albus*.

Fountain. Photographs taken from (SIB Colombia., 2019; Trujillo et al., 2016)

1.6.2.5.4 Ichthyofauna

The Orinoco basin contains 57.6% (995 species) of the national fish wealth (Álvarez, et al., 2013; Maldonado, et al., 2008), which positions it as the basin with the greatest fish diversity. in the nation. Many of the fish species recorded here are also found in the Amazon and Venezuela, given the connections between the two basins and their migrations for reproductive purposes.

Table 26. Ichthyofauna of the Orinoco basin and the jurisdiction of the CDA under some degree of threat

Scientific name	Common name	Threat Degree
<i>Osteoglossum ferreirai</i>	Arawana blue	Endangered
<i>Osteoglossum bicirrhosum</i>	silver arawana	Vulnerable
<i>Pseudoplatystoma metaense</i>	striped catfish	Vulnerable
<i>Pseudoplatystoma tigrinum</i>	Zungarotigre	Endangered
<i>Pseudoplatystoma orinocoense</i>	striped catfish	Endangered

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<i>Rhinodoras thomersoni</i>	Mariana	Vulnerable
<i>Colossoma macropomum</i>	black cachama	Almost Threatened
<i>Brachyplatystoma filamentosum</i>	Valentine	Endangered
<i>Brachyplatystoma juruense</i>	Fire / Black blanket	Vulnerable
<i>Brachyplatystoma platynemum</i>	Slimy	Endangered
<i>Brachyplatystoma rousseauxii</i>	Dorado	Endangered
<i>Paratrygon aiereba</i>	Eye brow stripe	Vulnerable
<i>Brachyplatystoma vaillantii</i>	push catfish	Endangered
<i>Zungaro Zungaro</i>	Yellow / Toad Catfish	Endangered
<i>Cetopsorhamdia picklei</i>	cinch catfish	almost threatened
<i>Sorubim five</i>	spoon catfish	Almost Threatened
<i>Sorubimichthys planiceps</i>	Axe Cape Catfish	Almost Threatened
<i>Potamotrygon motoro</i>	Raya motoro	Vulnerable
<i>Arapaima gigas</i>	Pirarucu	Vulnerable

Fuentes. Prepared from (CDA, 2016; Mojica, et al., 2012; UICN., 2019)

Figure 29. Fish for Local Consumption



a. *Ageneiosus magoi*. b. *Crenicichla* cf. *Wallachia* c. *Hoplerthrin unitaeniatus* d. *Hoplias juggling*. e. *Hoplosternum littoral*. f. Hare gr. Frederick g. *Porinus yophurus*. h. *Pimelod costume*. i. *Pimelodus bochii*. j. *Prochilodus* of Mary. k. *Pseudoplatystoma orinocoense*. l. *Pterygoplichthys*

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multiradiate **m.** *Pygocentrum cariba*. **no.** *Rhamdia quelen*. **O.** *Schizodon scotorhabdotus* **p.** *Serrasalmus irritans* **q.** *Serrasalmus rhombus* **r.** *Trachelyopterus helmeted*

Fountain. Taken and modified from (Maldonado, et al., 2013)

1.6.2.5.5 Flora

The type of vegetation belonging to a geographical area can be subdivided by the type of ecosystems in which they are found, which in turn grouped together make up the so-called biomes. Biomes are an ecological category for analysis from the systemic approach of geographical spaces that allows determining biological diversity and strategies to carry out sustainable management of said ecosystems; Each of these biomes has a characterization based on the relief, climatic and soil characteristics, which make up the space in which certain species of both flora and fauna develop and live. In the department of Guaviare, the identified biomes are shown in table 26. (Hinestroza, 2014).

Table 27. Biomes identified in the department of Guaviare

Great Biome	Total Area (ha)	Biome	Area %
Forest Wet Tropical	5.499.288	Tropical humid zonobiome of the Amazon - Orinoquia	76
		Tropical humid peinobiome of the Amazon - Orinoquia	1,2
		Tropical humid helobiome of the Amazon - Orinoquia	9,1
		Tropical humid lithobiome of the Amazon - Orinoquia	13,3
Total			100

Fountain. Adapted from a report on the state of the environment and natural resources of the department of Guaviare, corresponding to the validity of 2014. (Hinestroza, 2014)

Table 28. Flora species with economic importance in the department of Guaviare

Common name	Scientific name	Type of Use	
		AM	APFNM
Parature	<i>Goupia glabra</i> Aubl.	X	
Macano	<i>Terminalia amazonia</i> (JFGmel.) Exell	X	
He will be there	<i>Cedrelinga cateniformis</i> (Ducke) Ducke	X	
three tables	<i>guianense</i> (Aubl.) Sandwith	X	
Milpo	<i>uncinatum</i> Warm.	X	
Ax Cape	<i>Aspidosperma high</i> Benth.	X	
Carob tree	<i>Hymenaea oblongifolia</i> Huber	X	
Rayito roost	<i>Enterolobium schomburgkii</i> (Benth.) Benth.	X	
Machaco	<i>Simarouba amara</i> Aubl.	X	
roost	<i>Parkia discolor</i> Benth.	X	
Caimo	<i>Chrysophyllum cf. amazonicum</i>	X	
Black roost	<i>Parkia panurensis</i> HCHopkins	X	
Darling	<i>Trattinnickia boliviana</i> (Swart) Daly	X	
Pavito	<i>Jacaranda copaia</i> (Aubl.) D.Don	X	
Macaw	<i>Apuleia leiocarpa</i> (Vogel) JFMacbr.	X	
male sandpiper	<i>Vataireopsis churcasii</i> Ducke	X	
Caimo	<i>Pouteria cuspidata</i> (A.DC.) Baehni	X	
female grit	<i>Hymenolobium cf. heterocarpum</i>	X	

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cow tree	<i>A useful brush (Kunth) Oken</i>	X	
Cachimo	<i>Calophyllum brasiliense</i> Cambess.	X	
Arracacho	<i>Clarisia racemosa</i> Ruiz & Pav.	X	
Caimo	<i>Micropholis guyanensis</i> (A.DC.) Pierre	X	
Caimo	<i>Micropholis venulosa</i> (Mart. & Eichler ex Miq.) Pierre	X	
Cuyubi	<i>Minquartia guianensis</i> Aubl.	X	
Laurel	<i>Ocotea cf. aciphylla</i>	X	
Laurel	<i>Ocotea longifolia</i> Kunth	X	
Caimo	<i>Pouteria cladantha</i> Sandwith	X	
Caimo	<i>Pouteria glauca</i> TDPenn.	X	
Anime	<i>Protium amazonicum</i> (Cuatrec.) Daly	X	
Anime	<i>Protium grandifolium</i> Engl.	X	
Botagajo	<i>Vochysia ferruginea</i> Mart.	X	
Asia	<i>Euterpe precatoria</i> Mart.		X
Zancona	<i>Socratea exorrhiza</i> (Mart.) H.Wendl.		X
Wash it	<i>Astrocaryum chambira</i> Burret		X
Is	<i>Oenocarpus bataua</i> Mart.		X
Lecheperra	<i>Pseudolmedia laevis</i> (Ruiz & Pav.) J.F.Macbr.		X
Mamito	<i>Iryanthera laevis</i> Markgr.		X
Sanfretoro	<i>Virola elongata</i> (Benth.) Warb.		X
Anime	<i>Protium sagotianum</i> Marchand		X
white anime	<i>Crepidospermum rhoifolium</i> (Benth.) Triana & Planch.		X

AM: Timber Harvesting APFNM: Harvesting of Non-Timber Forest Products

source Adapted from (García et al., 2018a), (García et al., 2018b) & (*The Plant List*, 2013)

1.7 PMCC technologies, products and services

1.7.1 Description of Monitoring Report activities

To begin with, it is necessary to highlight that the indigenous reservation holds the right of property and has implemented projects, agreements and contracts executed within the project area in association with public, private and mixed entities, with different participation mechanisms depending on the capacities of the parties, these actions have ensured the achievement of climate additionality through the reduction of greenhouse gas emissions framed by the United Nations Framework Convention on Climate Change.

Initially, the start date is given with the signing of agreement 252 of 2013, which aims to implement activities and projects for the development of drug policy, especially strategic line B, which is linked to the agreed activities. the technical contribution for the construction of planning and management plans for indigenous communities such as the PIVI, therefore, through this agreement, the construction of the Life Plan of the proposing Resguardo took place. However, given the scope of the agreement and the difficulties in constructing the plan, additions and extensions were approved, as shown in Annex 17b, in order to fully meet the stated objectives. As for the participants, the agreement had the technical and financial support of the Ministry of Justice and Law and the United Nations Office on Drugs.

and Crime – UNODC. As well as, the logistics of the approval, self-diagnosis and socialization assemblies of said plan were led by the captains and legal representative of the indigenous reservation. In this way, the construction of the life plan generated guidelines to guarantee the sustainable use of forest resources; eligible project areas.

In line with agreement 252 of 2013, the reservation implements the thematic axis of territory and environment, proposed in the life plan, with the technical support of the Ecoindigenas Foundation of the Amazon and Colombian Orinoquía and the Corporation for Ethnic Development of the Colombian Amazon and Orinoquia – CORPOÉTNICO (Annex 18). As well as, the indigenous reservation participated in contract 227 of 2017, which had the financial and technical support of the El Retorno Municipal Mayor's Office, with the objective of supplying goods and elements to strengthen agricultural activities, education, transportation, housing and other sectors, of the indigenous communities belonging to the indigenous reservations of La Asunción and Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others (Annex 20).

In 2018, through contract No 1391 of the same year (Annex 19), the Government of Guaviare financially supported the necessary resources to strengthen the economy of the communities that make up the RI Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others through the loan of equipment for productive transformation and river mobilization. Additionally, in the same year, through contract 1034, the construction and improvement of the pedagogical environments in the educational center of the Morichal reservation took place, with the financial support of the Government of Guaviare and technical support from the company Unión Temporal Guaviare Educational Centers (Annex 21)

Similar situation presented in 2019 with contract No. 387 of 2019 (Annex 22), which had the objective of supplying the medications and supplies required for the health care of the populations that make up the indigenous reservations of the El Retorno municipality, including the Reservation Morichal, which had the participation and authorization for the delivery of the micro health post at its headquarters, along with the financial support of the Mayor's Office of El Retorno from the General Participation System for the Protection of Indigenous Peoples (SGP). RI).

Given that the activities of the monitoring report were already verified for the second instance, and considering that both instances are part of a single collective territory, - Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, the activities described above and in depth in the Monitoring Report, are related to the validation/verification process of the first instance and validation of the second, highlighting that instance 2 will not register carbon credits, since they were already canceled during the cancellation of the project with the other certifier.

All of the above framed with the REDD+ lines of action, focused on strengthening the capacities of communities in forest conservation management, through participating in the formulation of their own life plan, as a management guideline, planning of its territory to guarantee the sustainable use and management of forests based on traditional knowledge.

1.7.2 Description of activities to reduce deforestation and degradation

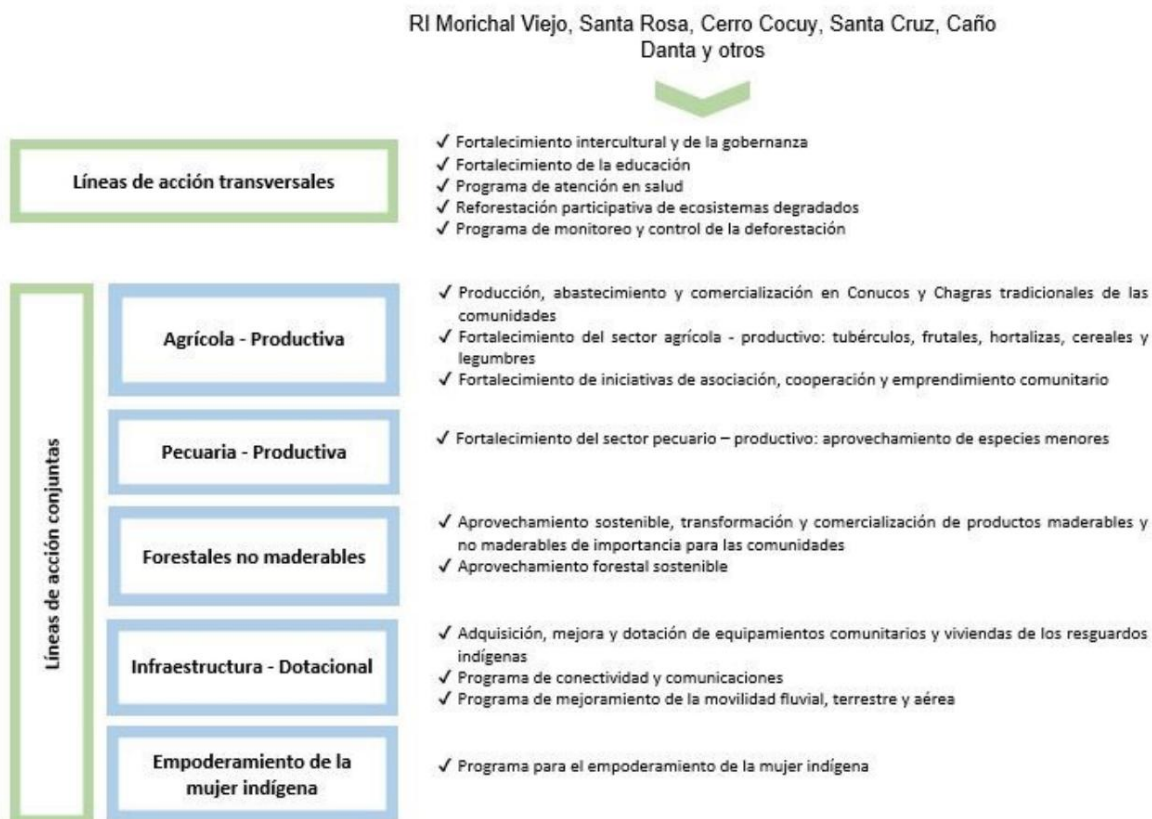
Forest Monitoring Plan

The proponent proposes the reformulation of the lines of action, as a result of the training and assembly held on 04/26/2022 (Annex 7) in order to adapt the lines to the current context and needs of the reservation. In consideration of those initially agreed upon in the project approval assembly (Annex 6).

Both processes of identifying needs and formulating lines of action were carried out jointly with the communities and with the reservation's technical team, seeking, on the one hand, to guarantee the reduction of greenhouse gas emissions, and on the other, to allow the capacities installed in the communities so that the results of the project are maintained over time, for which the developer structures a manual that proposes the technical, environmental and financial criteria of the investment projects presented by the indigenous authorities (annex 16). , with the purpose of aligning the implementation with what was agreed in the lines of action, in this way, the technical team of the reservation is trained with said manual so that the projects meet the expectations in the audits and what is regulated by The methodology.

In summary, the lines of action are presented:

Figure 30. Categories of the project's lines of action
Categorías Líneas de Acción Proyecto YAAWI IIPANA REDD+



Source: YAWI IIPANA REDD+ Group Project

As seen in the previous figure, some transversal lines of action are established, considered as fundamental aspects that seek to strengthen the reservations so that they can improve the management of their territories and meet the basic needs of their communities, and with this they can plan. and develop the activities of the REDD+ project.

It should be noted that these transversal lines of action have been structured from BIOFIX's experience as a REDD+ project structurer, since in the company's actions it has been identified that these lines record the most important needs to strengthen ethnic territories and to strengthen the REDD+ mechanism under which this project operates.

Among these lines are institutional and governance strengthening, which seeks, first of all, the recovery of culture, traditions and in general of all the ancestral knowledge of the communities, highlighting traditional practices. Secondly, the aim is to recover governance, understood as decision-making based on timely information and in a participatory manner, in order to guarantee management of the territory in accordance with the vision of the reservation, under criteria of environmental and social sustainability. This through the construction of planning instruments, the training of leaders and the construction of meeting spaces.

Among these are also the reforestation and monitoring lines that seek to generate a process of recovery of coverage and monitoring and their behavior.

This is through participatory processes that allow the training of communities, and their subsequent incorporation in activities such as the construction of nurseries, planting processes of species that have been identified by the communities, and subsequently, guarantee participation in the corresponding monitoring, monitoring and control of these lines.

There are also health and education lines, focused, on the one hand, on strengthening communities in technical aspects, guaranteeing access to higher education, and especially, the provision of health services that adapt to the physical and cultural conditions of the communities.

As mentioned before, in joint work with the communities, aspects that require attention and activities focused on strengthening them were identified. Thus, the need to strengthen production for self-consumption, characteristic of the reservations, was recognized, which is why we sought to give special attention to production in the conucos and chagras, through technical assistance. Likewise, the needs were identified in terms of diversification and use of different agricultural and forestry products, seeking the possibility of generating better, more stable income, and to the same extent with the development of practices that are in accordance with the REDD+ project.

This same analysis was done for the livestock sector, in which the importance of developing processes for the use of minor species, such as hens, chickens, pigs and even fish, was recognized. This proposal was based on the need to strengthen the food security of the communities and the processes under which the use is made.

It is recognized that this purpose requires access to technical assistance, support for the certification of good practices and the execution of pilot projects.

On the other hand, the communities have identified the need to take advantage of the different palms and other species in the region, to obtain timber and non-timber forest products, such as oils, latex, fruits, seeds, among others.

Lastly, there are activities focused on the acquisition and improvement of the infrastructure of indigenous reservations. Among these activities, fundamental aspects for the communities were recognized, such as the adaptation and/or construction of infrastructure to strengthen culture, sports, knowledge and even the connectivity of the territories. Priority was then given to the acquisition and improvement of community equipment such as sports or meeting venues, in addition to improving the homes where the families of the reservations live, and these improvements involved coverage and access to home public services, in particular, depending on the possibilities offered by the territory and the tradition of the reservations.

On the other hand, based on the improvement in aspects such as education, the importance of communications was recognized, identifying the needs for access to internet services and telephone communication. Furthermore, the importance of improving the

land and river mobility, recognizing the richness of the region's ecosystems and even prioritizing river transport for connectivity both with nearby territories and with the interior of the country.

1.8 Chronological plan

The YAAWI IIPANA REDD+ Grouped Project has a duration of 30 years, with a start date of January 1, 2016, extending until December 31, 2045, and has an accreditation period of 20 years until December 31, 2035.

To estimate and calculate the emissions projections of the baseline scenario, an analysis of historical periods must be carried out, lasting a minimum of 10 years, in which the trends, agent causes of deforestation and degradation are analyzed. However, this baseline must be reviewed every 5 years

1.8.1 Start Date

The YAAWI IIPANA REDD+ Grouped Project begins on January 1, 2016 with the formulation of the Life Plan of the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others. Through agreement 252 of 2013 that ends on May 31, 2017, including the start date of the project in its implementation. The objective of the agreement was to support the formulation of the life plan of the proposing reservation, within the framework of eradication of illicit crops through the empowerment of communities in their planning instruments, with the financial contribution and technical capacity of the Ministry of Justice and Law of Colombia and the United Nations Office on Drugs and Crime in Colombia (ONODC). In this process, the indigenous reservation approved participation in the agreement, granted access to the territories and implemented the established activities. In this way, through the characterization of the identified problems, the thematic axes were proposed to guarantee quality. of life and harmony with the community ecosystem, among these actions are proposed in:

- Environment and territory
- Traditional culture and practices
- Governance
- Governance structure
- Own justice
- Health and sanitation
- Housing and public services •
- Transportation and access roads
- Economy and productivity •
- Communication

In this way, within the formulation of the Life Plan, the component of Territory and Environment, which was executed starting on January 10, 2015 and ending on December 13, 2018 with the technical collaboration of the Ecoindígenas de la Amazonía y Orinoquia Foundation of Colombia, through the definition of strategies in

issues of fishing, waste management, sustainable production of chagras, sustainable forestry use and conservation of sacred sites, in order to reduce the environmental impact that practices within the reservation can cause in its ecosystems and forests.

ques

In that sense, the formulation of the Life Plan and its subsequent implementation are aligned with the lines of action proposed in the YAAWI IIPANA REDD+ Grouped Project, being additional since, although they were activities already executed, they are projected for the short and medium terms. to transform the usual scenario by improving the quality of life and environmental conditions of the populations, therefore, the project proponent must search for prolonged financing mechanisms to execute the projects of the thematic axes, therefore, if The reservation in question was financially autonomous from the ecosystem services that its territory possesses, through payment for results provided by the climate financing of the REDD+ project, it could ensure that the actions are permanent over time.

The action of the formulation of the life plan associated with the start date of the YAAWI IIPANA REDD+ Grouped Project complies with that established in the Cercar-bono Tool for the demonstration of the Additionality of climate change 2.0 mitigation initiatives. 1 and with the provisions of article 31 of resolution 1447 of 2018, considering what is described in the previous paragraph and in section 2.2

1.8.2 Historical period

In order to analyze the trend in the behavior of the agents and drivers of deforestation and thus estimate the deforestation rate during the projection period, the YAAWI IIPANA REDD+ Group Project contemplates a period of 10 years from 01 January 2005 to December 31, 2014, as established in section 5.1 of the Cercarbono REDD+ Methodology V 1.3

1.8.3 Results Period

The period of results presented in this document is categorized by each instance, since the activities from 2015 to 2019 referring to instance 2 were already subject to cancellation of credits, which is why they are not the subject of results.

On the other hand, the first instance adheres to the baseline projections¹⁴ for the deforestation and degradation segments during the periods from 2017¹⁵ to 2019 and 2016 to 2019, respectively.

¹⁴ Baseline of the VAL/VER process of the second instance with respect to the other standard. Information that may be revised in depth in annex 11d.

¹⁵ Both periods begin on January 1 of the related year and end on December 31, 2019.

1.8.4 Project duration and projection period

The project will have a useful life of 30 years, from January 1, 2016 to December 31, 2045, in accordance with section 6.7 Accreditation Period of the “Protocol for voluntary coal certification of Cercarbono, CVCC V. 4.1 .”.

During this period, the established lines of action will be implemented which seek to avoid deforestation and degradation of the existing forest before the implementation of the project. Through raising awareness of communities, strengthening their institutions and governance; in addition to actions aimed at the recovery of degraded areas and contribution to the improvement of the socioeconomic and cultural situation.

It is important to mention that the initial accreditation period is 20 years (01/01/2016 – 12/31/2035), and must be renewed for periods of 10 years until the useful life of the project is reached, in accordance with section “6.7 accreditation period” and “6.8 Renewal of the accreditation period” of the “*Protocol for Cercarbono's voluntary coal certification, CVCC V. 4.1.*”

1.8.5 Verification Times

The project verification times will have a periodicity of delivering results for verification on an annual or biannual basis, depending on the effectiveness and duration of the activities of the implemented lines of action.

2 Methodology

Methodology or tool name	Justification of applicability for the PMCC (complete or partial)	Version
M/UT-REDD+ Methodology For the execution of REDD+ projects consistent with national reference levels finals	The reference area and in the project area exist conditions of unplanned deforestation and forest degradation, carried out by the causes and agents of deforestation presented in section 2.5.1. and determined by IDEAM geospatial tools and information.	1.3

2.1 Applicability of the selected methodology to the PMCC

The Grouped Project YAAWI IIPANA REDD+ is applicable to the M/UT-REDD+ V1.3 methodology in coherence with the following criteria:

- The PMCC includes REDD+ activities that opt for payment for results of actions that generate reduction of GHG emissions
- The YAAWI IIPANA REDD+ Grouped Project located in Colombia has updated national Reference Levels before the UNFCCC, consistent with the GHG emissions and removals presented in the GHG inventories.
- The project does not present an overlapping situation with an NREF
- The project is articulated with the ISO 14064-2:2019 Standard, the UN-REDD program (2015) and the Cercarbono V 4.1 protocol
- The activities included by the PMCC as reduction of emissions due to deforestation and forest degradation due to fragmentation are covered by the methodology
- The REDD+ activity due to deforestation was estimated in the projection period in the absence of the project activities based on the projection of the historical trend calculated during the historical period and in the presence of the project activities (scenario of project) compared to projections



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2.2 Additionality

The YAAWI IIPANA REDD+ Grouped Project demonstrates additionality given that the rate of deforestation and degradation projected in the reference area and its project area, evidence that in the absence of the project the rate of both deforestation and forest degradation would be positive, it is That is to say, there would be no actions to mitigate these changes in coverage due to the agents and drivers of deforestation and forest degradation present in the territory, described below.

According to the Cercarbono Tool for the demonstration of the Additionality of climate change mitigation initiatives V 2.0.1, the YAAWI IIPANA REDD+ Grouped Project complies with regulatory requirements and is not a product of a legal requirement, as well as it is a initiative that 100% of its income for development and maintenance over time comes from the carbon market through the commercialization of the bonds generated, which is why according to the guide, the project is considered additional. In this way, the activities carried out in the monitoring report carried out in the territory of the proposing indigenous reservation are considered additional, since they have been activities that, if not for the resources generated by the REDD+ project, will not be able to be executed in the future on a prolonged basis. so that there would be no improvement in the quality of life reflected in the social and economic co-benefits of the project and scenarios would arise where the community, due to lack of opportunities, income and deprivation, incurs deforestation situations such as those described in section 2.5 . 1. Thus, the projects and agreements developed in the territory since the start date have been directed not only to the protection of the forest, but also to the improvement of the well-being of the community in order to, through opportunities, transform the panorama of agents and drivers of deforestation that, in the short, medium and long term, allow the maintenance of forest cover in the eligible project areas.

Table 29. Chain analysis of causes and agents of deforestation and forest degradation in the YAAWI IIPANA REDD+ Group Project

Type of activity generated	Origin	Key Actors/Agents	Kind of Cause	Cause	Motor	Interests and motivation because	Spatial and temporal dimension
Deforestation	Joint-pico	Subsistence farmers (Internal actor)	Direct	Expansion of the agricultural frontier	Conversion of forest land into land of subsistence agricultural crops.	Establish productive agricultural plots for self-consumption and local marketing	In the reference and implementation period of the project, in the areas of: Reference Area Project Area Leakage Area

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Deforestation	Joint-pico	Livestock farmers who are members of the indigenous reservation (Internal actor)	Direct	Expansion of the livestock frontier	Conversion of forest land into pasture for livestock	When the actor is from the community, it is done for self-consumption and marketing purposes.	In the reference and implementation period of the project, in the areas of: Reference Area Project Area Leakage Area
		Livestock farmers not members of the indigenous reservation gena (External actor)				when they are settlers or external actors the motivation is land grabbing and local and regional commercialization	
Degradation and Deforestation	Anthropo-pico	Local and regional sawmills (Internal actors)	Direct	Extraction of forest products	Unsustainable extraction of timber and non-timber forest products	When it comes to an internal actor, they are selective exploits. vos for local consumption and co-marketing.	In the reference and implementation period of the project, in the areas of: Reference Area Project Area Leakage Area
		International timber industry (External actor)	Underlying		National institutional policies and programs (during the reference period)	When it comes to ac- External actors are national programs or regional actors that take advantage of wood for marketing at a national or international level.	In the reference period, in the areas of: Reference Area Project Area
Degradation	Anthropo-pico	Families that use firewood as a means subsistence (Internal actor)	Direct	Extraction of forest products	Unsustainable extraction of firewood for fire and/or subsistence	The selective use of es- wood energy species or part of them for co-production activities. china	In the reference and implementation period of the project, in the areas of: Reference Area Project Area Leakage Area
Deforestation	Joint-pico	Population displaced from their territory	Underlying	Demographic factors and contexts	Dynamics of population migration	Due to conflict events by external actors, the actors	In the reference period in the areas of: Reference Area

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		(Internal and external actor)		socioeconomic and cultural consequences attributable to violence		inmates you have to look for where to relocate	Project Area
Degradation and Deforestation	Natural	Biophysical and climatic conditions: Forest fires of natural origin, floods	Direct	Dynamics of natural degradation and deforestation due to climatic factors	Plant cover fires due to natural and anthropogenic causes	Climatic conditions not so common in the zone	In the reference period, in the areas of: Reference Area Project Area
						Change in the use of coverage	In the reference and implementation period of the project, in the areas of: Project Area
Degradation and Deforestation	Anthropo-pic	Actors involved in illegal activities (Internal and external actor)	Underlying	Other political, socio-economic factors	Loss of coverage associated with illegal activities (Internal and external actor)	When they are internal actors, the motivation is means of subsistence. different from the few economic opportunities in the area	In the reference and implementation period of the project, in the areas of: Reference Area Project Area Leakage Area
						When they are external actors, it is due to particular motivations and interests of power.	
Degradation and Deforestation	Joint-pico	Mechanized mineral extracting agent Mineral extracting agent	Direct	Socio-economic, political and cultural factors. Inherence armed actors	Loss of coverage associated with mineral extraction	When they are internal actors, the motivation is means of subsistence different from those few economic opportunities in the area.	In the reference and implementation period of the project, in the areas of: Reference Area Project Area Leakage Area
						When they are external actors it is due to reasons vacations and interests particulars of power.	

Source: YAWI IIPANA REDD+ Group Project

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Based on the previous analysis, the YAAWI IIPANA REDD+ Group Project shows the existence and persistence of deforestation and degradation processes, and that if no type of intervention is carried out, this scenario will continue to continue over time, putting more and more at risk the permanence of the forests of the territory of the proposing indigenous reservation.

Associated with this persistence of the scenario is the growing emission of carbon dioxide due to these processes. For this reason, it is necessary to integrate the activities of the REDD+ project to open the possibility of reducing these emissions, making a change in the behavior of the agents and drivers of deforestation and forest degradation, demonstrating that the project has additionality in the prevention of net emissions into the atmosphere and within the framework of Resolution 1447 of 2018. The following tables present the analysis of how the lines of action of the project monitoring plan and monitoring report provide for additionality and the method monitoring additionality.

Table 30. Additionality of the REDD+ project through the lines of action of the monitoring plan and behavioral changes of deforestation and degradation agents

Line of action	Associated engines	Justification	Monitoring method
Intercultural and governance strengthening	Conversion of land remains on subsistence agricultural crop lands.	Through the planned activities to strengthen family productive systems, it is proposed to incorporate the strategic line of intergenerational knowledge exchange.	Annual management reports on the line of action in comparison with the proposed and achieved indicators. Likewise, compliance with local planning instruments will be verified within the framework of compliance with socio-environmental safeguards.
	Population migration dynamics	With local planning instruments such as Life Plans, management plans and internal regulations, the mechanisms and protocols for attention to emergencies due to population migration are established that mitigate the impacts that may occur.	
Participatory reforestation of degraded ecosystems	Conversion of land into subsistence agricultural crop land	Reforestation includes restoration, recovery or participatory rehabilitation activities that are established in priority areas that are determined in the monitoring program that is carried out weekly and semi-annual reports are delivered.	Annual management reports on the line of action in comparison with the proposed and achieved indicators. Field verification of the effectiveness of the implemented actions.
	Conversion of forest land into pasture for livestock and uncontrolled grazing	In this way, reforestation activities are not only usually carried out in degraded areas or abandoned areas of agriculture or grenade, if they do not bring benefits in areas that have been selectively used. Additionally, the participatory reforestation program proposed by the YAAWI IIPANA REDD+ Group Project includes a training component for communities, raising awareness of the importance of said activity, which	
	Unsustainable extraction of timber and non-timber forest products.		

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	Unsustainable extraction of firewood and/or subsistence	that in the future are expected to change in behavioral patterns associated with certain drivers of deforestation	
Deforestation and forest degradation monitoring and control program	Conversion of forest land into pasture for livestock and uncontrolled grazing	The program for monitoring and controlling deforestation and degradation includes a technical component which is carried out with analysis of sentinel, radar, landsat or other satellite images that help fill information gaps due to cloudiness.	Monthly monitoring reports on deforestation and degradation, as well as verification of the number of early warnings generated and their mitigation actions.
	Unsustainable extraction of timber and non-timber forest products	When there are medium or high-scale disturbance events, the indigenous reservation will be communicated through an early warning mechanism to verify if it can intervene or direct communications to the pertinent environmental authorities.	Annual Report of the changes in coverage that have occurred, analysis of the drivers and agents of deforestation previously identified plus those generated in the year, in case it happens.
	Forest cover fires due to natural and anthropogenic causes	In such a way that the technical monitoring is complemented by the social monitoring of the forest custodians through the forest custodians.	
Generation of strategies for forest management and recovery – Sustainable forest use	Unsustainable extraction of timber and non-timber forest products	Through participatory studies with local sawyers to determine the species of socioeconomic interest and threat level to prioritize in internal harvesting prohibition policies.	Reports with the relationship of the number of protected fauna and flora species with the associated projects executed at the head of the indigenous reservations or with the relationship with third parties of institutes of research and universities.
Strengthening of partnership initiatives, cooperation and community entrepreneurship	Unsustainable extraction of firewood for fire and/or subsistence.		
Diversification of productive systems for self-sufficiency and marketing of conventional agroforestry products in the region.	Conversion of forest land into crop land subsistence agricultural workers.	Through the diversification and sustainable use of agroforestry products in project areas, it is intended to delimit and secure specific areas for this purpose, without the need to incur overexploitation of forest resources or areas.	Implementation reports of undertakings of this type supported by the REDD+ project.

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Strengthening the agricultural sector: tubers, fruit trees, vegetables, cereals and legumes units Production, supply and marketing in Conucos and Traditional chagras of the communities	Conversion of forest lands into subsistence agricultural crop lands.	From the point of view of commercial crops, the possibilities of association would minimize deforestation or degradation in mosaics, which potentiate the fragmentation of ecosystems, while in associative areas the edge effect is smaller and fragmentation is less likely to lead to degradation. border would be a little easier to	Verify the number of associative ventures created or strengthened within the framework of the REDD+ project.
	Unsustainable extraction of timber and non-timber forest products	Associations of sawyers and NTFP harvesters are prioritized so that cooperative activities are more effective in planning sustainable forest management.	
Strengthening the livestock-productive-use sector, species protection minors	Conversion of forest lands into pastures for livestock and uncontrolled grazing.	Change the productive mechanisms from extensive to intensive livestock farming, with silvopastoral or agrosilvopastoral systems to optimize the number of livestock per hectare with the lowest possible environmental impact.	Verify the number of hectares released from extensive livestock farming and enabled for rehabilitation processes. Verify the number of livestock per hectare in the project area.
Sustainable use, transformation and marketing of non-timber products of importance to communities	Unsustainable extraction of timber and non-timber forest products.	With the organization of forest product harvesters in harvesting cooperatives, they can support the establishment of sustainable forest management plans and all the requirements of the Colombian regulatory framework to enter into legal forest harvesting, at which point the REDD+ project reaches this point. , would incorporate planned deforestation and degradation as an activity.	Check the number of sawyers included in conservation or sustainable forestry cooperatives, number of hectares included in sustainable forestry processes within the framework of the pact for legal timber in Colombia.
	Unsustainable extraction of firewood for fire and/or subsistence	Maximizing the use of forest residues implies that extra individuals do not have to be used to satisfy the need for firewood. Likewise, the establishment of wood energy orchards would remove pressure on the natural forest.	
Sustainable use, transformation and marketing of non-timber imported products. importance for communities	Unsustainable extraction of timber and non-timber forest products	By strengthening sustainable activities that involve the trade and use of non-wood products, low impact on individuals and conservation of forested areas is guaranteed.	Verify the number of transformation and use projects for wood products generated Monitor the tree areas and individuals involved in the projects

Source: YAWI IIPANA REDD+ Group Project

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Table 31. Relationship between the lines of action of the monitoring report and behavioral changes of the agents of deforestation and forest degradation in the monitoring period

Action line report monitoring	Defogging motors associated subtraction	Justification	Evidence
Intercultural and governance strengthening through the promotion of knowledge and appropriation of traditions of the Indigenous Reservation through the formulation and implementation of planning and management instruments such as the Life plan	Dynamics of population migration. Unsustainable extraction available firewood for fire and/or subsistence. Time conversion Forest lands in pastures for livestock and uncontrolled grazing and subsistence crops.	Based on planning and territorial ordering instruments such as life plans, guidelines are established to mitigate the causes of coverage conversions associated with population dynamics, as well as formalizing the populations of remote areas immersed in the jungle, which can incur in unsustainable practices with the management of the forests, as well as productive practices are structured in a more sustainable way, reducing the dynamics of the change of forested areas into crops or livestock areas.	Annexes 17a and 17b. Formulation of Life Plan of the Old Morichal Indigenous Reserve, Santa Rosa, Cocuy Hill, Santa Cruz, Danta Canyon and others Annex 18 Axis Implementation Territory and Environment Theme – Life Plan
Strengthening the agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes Acquisition, improvement and provision of community facilities and housing of the Indigenous Reservation Strengthening education Strengthening association initiatives,	Unsustainable extraction of firewood for fire and/or subsistence. Unsustainable extraction of wood and non-wood forest products	Through the activities associated with the improvement of educational facilities, provision of health posts, supplies, provision of productive machinery, in short, they are actions aimed at satisfying the unsatisfied basic needs of the Indigenous Reservation, since the low quality of life in The collective territory favors deforestation and forest degradation. Considering that the forests are close at hand and usually have material to guarantee housing, for example, temporarily. So by providing communities with housing and public services that on the one hand allow for an improvement in the quality of life, and on the other are in line with the indigenous worldview, it makes way for the use of the forest to become increasingly more efficient.	Annex 19. Convenient Contractos RI Morichal Annex 20. Supply contract No. 227 of 2017 Annex 21. Public works contract No. 1034 of 2018 Annex 22. Contract No. 387 of 2019

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community cooperation and entrepreneurship			
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Source: YAWI IIPANA REDD+ Group Project

It is worth mentioning that in the project area no compensation processes for the biotic component have been carried out on the occasion of projects, works or activities that have required environmental licenses, concessions, requests for the subtraction of forest reserves or requests for permits for the sole use of the forest resource.

Nor preservation and restoration activities of strategic ecosystems due to the implementation of payments for environmental services related to the reduction and capture of GHGs; that may have generated benefits in terms of reduced or removed emissions.

On the other hand, as mentioned in [section 1.4.2](#) , the YAAWI IIPANA REDD+ Grouped Project is a grouped project made up of two instances, where the second instance was part of the retired project under a standard different from the current one. The approval of the withdrawal request by the standard is evidenced in Annex 10, as well as the validation/verification and certification process are contained in Annexes 11a, 11b and 11d.

2.3 Eligibility

The YAAWI IIPANA REDD+ Group Project is eligible under the scope of the CER-CARBON program for responding to REDD+ activities, under an independent project scheme for validation and verification of GHG emission reduction according to ISO 14064-2 standards: 2006 and ISO 14064-3:2006.

For the Grouped Project YAAWI IIPANA REDD+ it is aimed to comply with the *REDD+ methodology: for the implementation of REDD+ projects consistent with the re-reference levels submitted by Colombia to the UNFCCC Version 1.3.*, for validation, verification and certification of the reduction of carbon emissions between the periods 2016 – 2045 (life of the project).

Satellite images from ten years prior to the start of the project have been analyzed to demonstrate that land in the project area qualifies as forest according to Colombia's national definition of forest: "Land occupied primarily by trees that can contain shrubs, palms, guaduas, grass and vines, in which tree cover predominates with a minimum canopy density of 30%, a minimum canopy height (in situ) of 5 meters at the time of identification and an area minimum of 1.0 ha".

(IDEAM, Ministry of Environment and Sustainable Development, 2014).

Therefore, the eligibility analysis begins with the determination of the baseline for the reference periods 2005 - 2014, to comply with the Cer-carbon Methodology V 1.3. where it indicates that the reference period must be greater than or equal to 10 years, in the project area and reference area, for which the Forest / Non-Forest maps (30 m resolution) were used, generated by the Information System. Forest and Carbon Monitoring (SMByC), from IDEAM, official forest information for Colombia.

The procedure consisted of cutting and improving the general appearance of the layer classification result, combining the cut layers and assigning output values for the categories Forest (1), Non-forest (2) and No information (3) to the forest/non-forest strata for the time periods 2005 – 2014.

These IDEAM maps come from the classification by Principal Component Analysis of LANDSAT images and complement of SPOT, IKONOS, QUICKBIRD images, among others, of high and very high spatial, spectral and radiometric resolution, which comply with a spatial resolution of maximum 10 meters (Galindo, et al., Table 1).

Therefore, it can be concluded that in the analysis time period the grouped project presents **2,700,278 hectares** of forest for the reference area in 2014, that is, the forest that remained unchanged in the ten-year period. reference, determined by the interpretation in the analysis of geographic information.

According to the additionality analysis, the YAAWI IIPANA REDD+ Grouped Project is an efficient mechanism for reducing GHG emissions, since in the absence of the initiative a scenario would be feasible where the reduction of emissions depends on third parties that do not

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They generate installed governance capacity in the territory and do not have sufficient financial security to remain over time.

Thus, the second eligibility criterion is related to the economic opportunity that the proposing indigenous reservation community has to continue the additionality activities described in sections 1.7.1 and 10.1, since the actions directed in improving the living conditions of the residents cannot be paid for by the reservation itself, so this type of project offers an opportunity to diversify income, in such a way that, once the initiative is implemented, it can be developed. projects focused on social, environmental and economic co-benefits,

which could not have been executed if the YAAWI IIPANA REDD+ Grouped Project had not been implemented. The above focused on reducing deforestation, degradation and maintaining vegetation cover, which is translated into climatic additionality.

Additionally, the ownership of the territory and the project is solely the indigenous reservation Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, legally supported with the adjudication resolution 045 of 1998 and described in section 1.5

It is necessary to highlight that this project does not contemplate areas with forested wetland ecosystems (mangroves, freshwater wetlands and peat bogs), as cartographically evident in figure 25 Type map of ecosystems in the project area, nor does it overlap with another REDD+ program or project, as evidenced in figure 14

2.4 No double accounting

The PMCC is a grouped project formulated under the CERCARBONO program and made up of two instances awarded to a single owner; the project proponent the community of the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others. It presents the particularity that the second instance was linked to the REDD+ project (Annex 11d), currently canceled (Annex 10) under a different certifier, where 1,896,113 Ton CO₂eq were verified referring to the deforestation segments (January 1, 2017 - 31 December 2019) and degradation (January 1, 2015 – December 31, 2019). Reason why, in this validation, verification and certification process, second instance credits will not be generated in the described time periods, in order to avoid double accounting.

Consistent with the previous paragraph, the bonds withdrawn under the other certifier's platform have a serial assigned within a blockchain system, which does not allow the migration of already canceled bonds to the new CERCARBONO program; avoiding double accounting of the vintage years of the project already marketed, as evidenced by annexes 28.

For explanatory purposes, Annex 28a on the last page mentions the verified GHG reductions of the project in the period from 01/01/2015 to 12/31/2019, indicating 1,896,112 TCO₂. Once the 15% reserve discount was applied, the VCU during the verification period were 1,611,695 TCO₂, which represent the sum in the transaction history of the project (annex 28b) issued by the other certifier, under the compilation of withdrawal statements of said history (annex 28c).

Finally, the YAAWI IIPANA REDD+ grouped project does not intend to register the activities in any other program other than CERCARBONO, demonstrated through annex 10 the cancellation of the project under the other standard, as well as its verified credits (annexes 28). Additionally, the project does not seek to add another instance to the two already established.

2.5 Baseline scenario

The baseline scenario is based on the project preconditions described in [section 1.6](#). Likewise, the identification and selection of alternative land use scenarios for determining the baseline was done based on the additionality analysis presented in [section 2.2](#) of this document, the [study of the legislation](#) and some assumptions described in this section. Likewise, the activities of the YAAWI IIPANA REDD+ Grouped Project do not violate any applicable law, regardless of its applicability according to the political, legislative and regulatory framework described in [section 4.1](#)

Alternative land use scenarios were identified, in which two feasible scenarios were found in the absence of the project:

1. **The land use trend that existed in the reference period continues** with the actors and drivers of deforestation and degradation identified in [section 2.5.1](#). In this [scenario](#), the project area will be located in forests within the Indigenous reservations, awarded by the resolutions described in [section 1.5](#), are natural forests that have a type of collective tenure in which protection against illegal logging or other sources of unsustainable extraction of natural resources is very difficult. , since the reservation does not have the financial, technical and administrative capacity; and, the constant and sufficient support from the environmental authorities of the jurisdiction is limited due to lack of installed capacity. Therefore, it makes them vulnerable to the dynamics of the reference area harming them and deforestation and degradation continuing to occur.

This scenario is considered credible since the conditions described were already in place before the project start date.

2. **National institutions (CDA, MADS, SINCHI, MADS, DNP, PNN) and international institutions (UNODC) will plan, finance and implement conservation activities in order to reduce deforestation and degradation.** This scenario is considered credible since they are institutions and actors that were already there before the start date of the project, the technical and financial support from external sources has been fundamental to achieve community organization processes that have allowed the reduction of rates. of deforestation and forest degradation between 2016 and 2019. However, since these are actions that have focused on building planning documents for future actions that do not have assured or constant financing, they are depending on of the external initiative, leaving the REDD+ project proponents without financial autonomy.

Therefore, despite being credible, it is an insufficient scenario, since it does not encourage the implementation of permanent activities from the vision of the territory with articulation and co-financing with third parties, but with the economic and community leadership of the proponents.

Based on these scenarios, the land use alternatives would be the following:

- to.** Changes in land use continue due to the drivers of deforestation and degradation. identified forestry areas. **Credible and very probable**
- b.** Activities of illegal exploitation and use of natural resources in an unsustainable manner cease due to the control and surveillance of environmental authorities, application of laws and regulations. **Credible but unlikely**
- c.** Implementation of alternative livelihoods, sustainable production systems, capacity building and strengthening of governance to reduce deforestation and forest degradation, promoted by national and international entities and NGOs. **Credible and probable but insufficient.**

Given the conditions described throughout the PDD document, which are evidenced among others: weakness of governance systems, little financial autonomy, low sustainable productive opportunities, institutional weakness and little presence of the state in the territory, among others. They mean that the conditions to mitigate deforestation and degradation within the project area require an autonomous alternative with sufficient financial muscle to carry out effective activities locally.

Thus, the most plausible baseline scenario remains the continuation of scenario **2.** (from the project start date) In combination with land use alternative **a.** and **c.** (with uncertainty of reversal risks) since the same conditions have been recurring over the historical reference period and an inefficiency of actions that tend to change the trend of the climate scenario described below is observed.

Under a climate scenario analysis scenario, the project area would be very prone to deforestation and forest degradation, since according to the factors:

- Biophysics described in [section 1.6.2](#) and annex 15.
- Demographic, economic and technological and productive described in [section 1.6.1](#) and in annex 15.
- Institutional and legislative described in [section 4.1](#)
- The technical projections described in [section 3](#)

The rate of historical deforestation and forest degradation determined in the reference region, in a scenario of absence of the project, with the risks of reversal and without the boost of external financing (with uncertainty that it will continue) that has been been doing, would incur a significant emission of carbon dioxide compared to the deforestation and degradation avoided, which is expected with the implementation of the lines of action of the REDD+ project. All the factors described above are condensed into the actors and drivers of deforestation identified and described in the following numbers.

2.5.1 Analysis of agents and drivers of deforestation and forest degradation

The causes of deforestation and forest degradation originating from anthropogenic activities are those human actions that are carried out at the local level on a forest, such as the expansion of agriculture and/or livestock, the implementation of infrastructure projects, , illegal mining or the selective use of forest species, whether to obtain wood or other uses that involve the felling of individuals, directly impacting the natural vegetation cover (Dueñas, 2018). These are subject to local and regional contexts due to underlying causes that may be demographic, economic, technological, cultural and institutional that are particular to each of the territories and are not always so clear. (Geist & Lambin, 2002).

Therefore, to identify the agents and drivers of deforestation and forest degradation in the project area, it is necessary to describe the context in which said agents and drivers converge, for which the sources were consulted. of information that have a direct relationship with the territory, either from the point of land ownership, as is the case of the Life Plan of the indigenous reservation; from the perspective of managing and regulating the use of natural resources, as is the case of the environmental authority; from the figure of management and coordination, as is the case of municipal mayors and governorates, and from the contribution made by research institutes specialized in the subject that are recognized as sources of official information for decision-making by part of public institutions.

It is worth clarifying that the drivers and agents of deforestation developed in the following section are related to the situation that occurs in the Guaviare department, in which the proposed reservation areas are located, as well as the planning inputs. and diagnosis of the territory locally, such as the Life Plan of the reservation.

On the other hand, according to bulletin number 27 on early deforestation detection (DTD) carried out by IDEAM, for the second quarter of 2021, the Guaviare department was positioned on the list of the 15 departments with the highest number of deforestation alerts. subtraction reported at the national level, occupying position 7. The entity identified in this new report the areas of Guainía, Vaupés and Amazonia are considered potential to suffer threats of deforestation and as has occurred throughout the bulletins, Guaviare is always among the departments that are largest in (IDEAM, 2021)

Thus, within the analysis of deforestation and degradation, a series of criteria were taken into account for the compilation of information at the regional, departmental and local level, through secondary bibliography such as institutional technical documents, scientific articles and plans. of ordering and planning such as the action plans of the CDAs and the life plans structured by each reservation. So, the direct impact on the territory generated by these engines was evaluated from the point of view of land ownership, like the previously mentioned plans.

Thus, within the analysis of deforestation and degradation, a series of criteria were taken into account for the compilation of the information. One of them refers to the consideration of degradation as a stage of deforestation when it is induced by anthropogenic causes. For this reason, quantification becomes more complex and, therefore, both quantification and identification of actors are carried out jointly or combined.

Another criterion considered was the inclusion of observations recorded during field visits in the development of the project, to identify the influence of spatial and non-spatial variables on the processes of forest degradation and deforestation, as related (Geist & Lambin, 2002) and as presented below:

Spatial variables:

- The type of forest located in the area that has a high commercial value.
- Wide distance between the proposing indigenous reservation and between the communities that make it up, the forested areas and the populated centers of the municipality and department, which makes controls by government and local authorities difficult.
- Poor conditions regarding access and connection roads.

Non-spatial variables:

- Demand for illegally harvested wood.
- Internal factors associated with the lack of appropriate technologies, consolidated production chains, specific public policies, microcredit opportunities and knowledge of the indigenous reservation for the sustainability of forestry and agricultural production.
- Increased pressure on resources due to the increase and/or displacement of the population in the communities.
- Difficulties in diversifying and increasing economic income for the sustenance of communities that make illegal practices attractive.

All of these factors create incentives for illegal activities that offer higher, faster and easier returns for said population. This is especially relevant for families in the project area who do not have sustainable economic alternatives.

Historically, the tropical forests corresponding to the areas of the Amazon biome in which the project is located have been permeated by the incursion of external agents in search of opportunities, establishing frontier economies, as occurred with the boom of the rubber and skins, the introduction of the coca leaf and marijuana in the 70s and, as is currently the case, the displacement of colonization fronts due to the purchase and hoarding of land for speculative purposes (Dávalos et al., 2014).

Specifically, the forests of the Guaviare department have been placed in the category of one of the most active fronts of colonization and expansion of the agricultural and livestock frontier in the country, concentrating approximately 11% of national deforestation, followed only by Putumayo and Caquetá (SINCHI & GIZ, 2016).

For the department of Guaviare, in 2019 the IDEAM Forest and Carbon Monitoring System reported that in the period between December 31, 2017 and December 31, 2018, the stable forest was 4,735,811 ha. and deforestation was 34,527 ha; which represents 17.5% of the national deforestation, which was 197,159 ha, being the fourth department with the most deforestation in the country (IDEAM, 2019b).

In general, the causes of deforestation that represent a greatest threat to the forests of the Guaviare department:

“They are mainly related to the expansion of grasslands for the appropriation and hoarding of land and/or for the establishment of livestock activities. These activities are usually financed by actors external to the area, who see in the possession of the land and the change of use, an expectation of valorization at the expense of natural forests. The expansion of road infrastructure, the extraction of wood and the existence of crops for illicit use have also been identified, promoted by armed actors who have established themselves in the area” (IDEAM, 2019) .

Based on the above, the causes and agents of the drivers of deforestation and forest degradation in the study area are described in more detail:

2.5.1.1 Conversion of land into subsistence agricultural crop land

Like deforestation to establish extensive livestock farming, the conversion of forest lands for the establishment of agricultural crops has a speculative and non-productive origin, since it is not a priority for the owner of the land to assign it to an efficient use, despite the fact that technical agriculture can be more profitable than extensive livestock farming; The latter does not require a high economic investment as agriculture requires, in addition the lack of competitiveness of other economic alternatives and the local inflation of agricultural products due to the present illegal economies, inhibit the development of other productive alternatives, which compete with products brought from nearby populated centers or more developed municipalities. (Dueñas, 2018).

In such a way that, as said previously, agriculture represents a driver of deforestation when small-scale pancoger crops are established that will later be lands destined for pastures.

Therefore, agricultural activity is part of the underlying causes of deforestation, in an endless circle of short-term practices – soil degradation – loss of productivity – short-term practices such as extensive livestock farming. (Dueñas, 2018).

2.5.1.2 Conversion of forest land into pasture for livestock and uncontrolled grazing side

This driver of deforestation has two main agents of its causation, the first is underlying the dynamics of population migration and the other agent is the inhabitants themselves located in and around the forested areas, the latter being the one of least concern regarding the first.

The conversion of forest lands into pastures for livestock by the first agent of deforestation is a consequence of the dynamics of the fall in productivity due to the degradation of soils, which are usually fragile, the lack of capital and Appropriate technologies for production are also an important factor for small

farmers make the decision to sell the land to large livestock ranchers, or, if they have the economic capital to incorporate an extensive livestock model (Dueñas, 2018).

This dynamic of incorporating productive systems for extensive livestock farming has an underlying cause that is more complex than it seems, since the establishment of livestock farming is not carried out due to the productive, market and financial advantages that the sector provides. of the production and marketing of meat and derivatives of livestock activity, as is the case in Brazil; On the contrary, in Colombia the establishment of this productive system is related to land grabbing, resulting in the department of Guaviare having one of the highest Gini¹⁶ indexes in the world with a value of 0.81. (Dueñas, 2018)

2.5.1.3 Unsustainable extraction of timber and non-timber forest products

The forests belonging to the tropical humid forests of the Amazon biome are especially attractive for the selective logging of some species of high economic value due to their organoleptic and physical-mechanical characteristics, however, in terms of representation against the drivers of deforestation described above is low impact. Since it is an activity with high informality and on the other hand it is subsumed by the large deforestations carried out for agriculture and subsequent livestock farming (SINCHI & CDA, 2006).

Both the original inhabitants of the territory, but even more so the settlers, are dedicated to timber forestry, which in most cases does not correspond to sustainable forestry¹⁷. However, given this evidence, the forest economic sector is the largest emitter of GHG with 95.5%, generated not only by timber forestry, but also by all the underlying causes previously reflected in this section. . (Guaviare Government, 2016)

On the other hand, the current perspectives for the use of timber or non-timber forest products cause their overuse or overexploitation, leading to an impact on native populations with strong ecological and economic implications, due to the lack of criteria for their sustainable use. and the control of the actors involved in its commercialization.

In accordance with resolution 1885 of 2015, the departments in the jurisdiction of the CDA have a global quota allowed for wood extraction in m³ . in order to compare and

¹⁶ The Gini Index of rural land is a measure of the degree of concentration of rural land in the reference spatial unit, taking into consideration the number of people who exercise the legal right of ownership over it (SINCHI & MADS, 2018).

¹⁷ Sustainable Forest Use is understood as the use of timber and non-timber forest resources that is carried out while maintaining the normal performance of the ecosystem through the application of silvicultural techniques that allow the renewal and persistence of the resource. (SINCHI & CDA, 2006)

account for forestry exploitation in the corporation. Guaviare was the territory that had the highest percentage of use of the global quota. These quotas are categorized according to the type of use, in the case of the CDA, the largest amount of wood was assigned to the type of persistent use, then the domestic use and finally single-use use (CDA, 2020).

2.5.1.4 Unsustainable extraction of firewood for fire and/or subsistence

This engine of unsustainable extraction of firewood for cooking, housing construction, heating and other uses given to it by rural populations in the departments, contains a cultural and subsistence framework that implies basic needs activities such as food. The context of rural areas, especially jungle areas such as the proposing indigenous reserve, differs with cities or urban centers, especially with the resource of energy or electricity. Communities in these areas usually use firewood to cook food, extracted directly from the forests, as a method of survival in the feeding dynamic and carries a traditional cultural connotation in its activities.

At the departmental level, the populations of Guaviare take advantage of the surrounding trees for firewood and other uses (Gobernación del Guainía, 2020), so much so that 89.5% of the population of Guaviare uses firewood for cooking (CDA, 2020). . This extraction activity is identified by multiple diagnoses as a cause of deforestation and forest degradation in the territories.

Firewood is seen as an ecosystem supply service for the indigenous people belonging to the project reservation, appreciated for the flavor given to the food when cooked, as well as for heating and because it constitutes a key element in relationships. social, because the kitchen is the most welcoming place to receive visitors.

2.5.1.5 Population migration dynamics

The migration of settlers to the densest forested areas is directly motivated by the opportunity represented by local illegal markets, mainly those that have to do with coca leaf and cocaine paste; dynamic that gains strength given the conditions of marginal and scarce rural employment, since as the main economic activity is extensive livestock farming, very little labor is required. In this way, the settlers proceed to deforest areas of forest to establish pancoger and coca crops, which are typical in the first years and are later replaced by pastures (Dueñas, 2018).

A consequence of the above is the commercialization of land, which is often carried out illegally since the ownership figures are not clear in some cases. The marketing is carried out on cleared land and is done with any interested party who is speculating on the value of the land, in order to buy at a low price and monopolize the greatest number of hectares possible, subsequently fenced with barbed wire and with heads of cattle to aspire to a claim in the future. (Dueñas, 2018)

Although the ownership of the land of the indigenous reservation belonging to the project is clear by the adjudication regulations issued by INCORA, they are not exempt from being vulnerable to the invasion of their lands by settlers, which is why under the shadow -shines from the strengthening of the governance of the reservation, specifically from the consolidation and strengthening of the indigenous guard and the alignment of their territories, efforts are being made to prevent this engine of deforestation caused by external agents.

Now, in a post-peace agreement context, according to the Life Plan of the indigenous reservation, deforestation will increase since the armed group traditionally present in the territory would stop leading territorial control and other illegal actors would enter. . The Corporation for the Sustainable Development of the Northern and Eastern Amazon - CDA, does not have the response capacity to stop deforestation in the department of Guaviare. (Ministry of Justice & UNODC, 2016)

2.5.1.6 Loss of coverage associated with illegal activities

According to the Life Plan of the Indigenous Reservation belonging to the project, at the beginning of the 90s, due to a lack of different opportunities in the region, the first illicit crops and mining exploitation activities began, in which the Puinave and Curripaco indigenous people were involved. understood as the two main causes of deforestation in the territory. (Ministry of Justice & UNODC, 2016).

Regarding illegal mining activities, they are carried out in gold and quartz deposits in some buffer zones of the reservation, due to the incursion of settlers into the reservation. For its part, the planting of illicit coca and marijuana crops, induced by the white man who enters the reservation, but who has linked the indigenous people. (Ministry of Justice & UNODC, 2016).

As the main agent of this engine of deforestation, the settlers in the reservation are identified in the Life Plan, who are unaware of the ancestral use and management of the territory and with whom community agreements have not been reached to regulate the protection of resources; Likewise, the underlying cause is the absence of profitable and sustainable productive alternatives such as the lack of constant support from municipal, departmental and national government institutions. (Ministry of Justice & UNODC, 2016).

The above has serious consequences in the deterioration of biological diversity but also of the social structure, since the communities identify consequences such as the extinction of species of flora and fauna, wood and seeds, nutrient-poor soils for planting fields, decrease in the supply of food and trees for housing construction. But also and no less serious, diseases caused by the contamination of the water and the fish consumed by the community; In addition to the impact on the quality of life of the communities, loss of indigenous cultural identity and knowledge

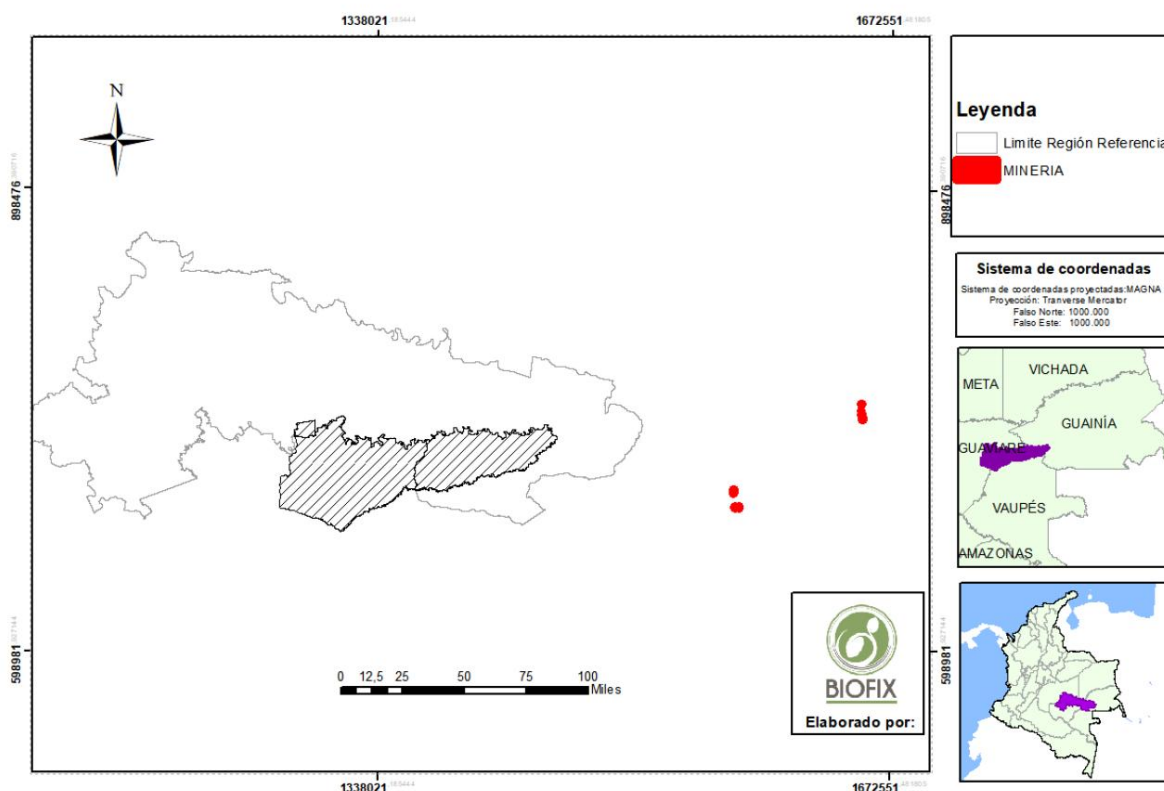
Grouped Project FAST IIPANA REDD+

ancestral cultural of the use of natural resources for new generations (Ministry of Justice & UNODC, 2016).

Furthermore, the Comprehensive National Program for the Substitution of Illicit Crops (PNIS) is causing some farmers who signed the voluntary agreement to eradicate their coca crops and who have not perceived tangible or sustained results, to be taking the seed to kilometers into the forest, thus contributing to the increase in deforestation figures. (Ministry of Justice & UNODC, 2016).

As shown in the map below, the project reference area has the presence of mining projects, an official layer obtained from IDEAM, which is why it is considered a driver of latent deforestation.

Figure 31. Presence of mining in the reference region of the REDD+ Grouped Project REVIEW IIPANA



Source: YAWI IIPANA REDD+ Group Project

2.5.1.7 Forest cover fires due to natural and anthropogenic causes

Climatic conditions have a great impact on the capacity and predisposition of ecosystems in changes in the use of coverage. Particularly, forest fires are mostly caused by anthropogenic actions rather than by natural causes, due to the dynamics in changes in land use caused by the population such as,

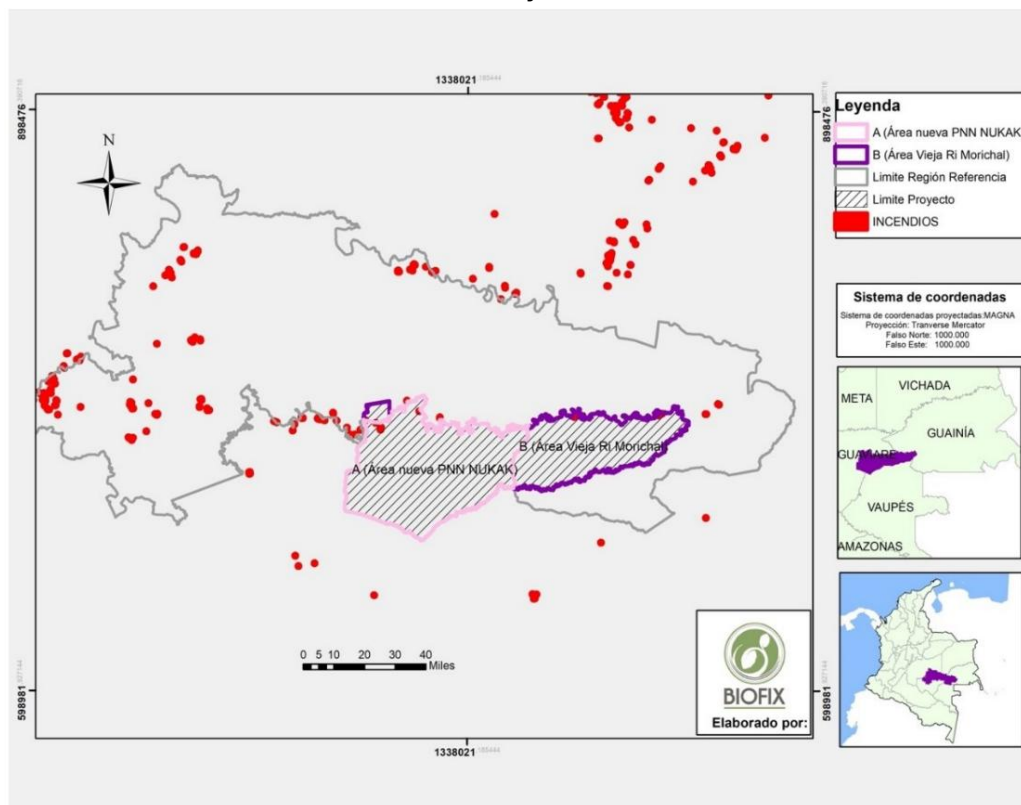
deforestation, traditional burning, changes to forest lands for crops or livestock, settlements, among others (UNGRD, 2019)

In relation to figures, between 2010 and 2017, 57% of the disasters that occurred in the department of Guaviare were related to forest fires¹⁸, that is, forest fires are a relevant problem in risk management due to the dominant occupation. rence of the same

The above, given that humid tropical ecosystems lose part of the surface and interior moisture content, increasing their levels of susceptibility and threat towards the combustion of the plant biomass that composes them.

On the other hand, it is feasible that forest and non-forest cover fires will be caused, given that in the region there is a traditional practice of slash and burn for the establishment of agricultural crops, weed control and other beliefs of the communities. This actor and engine of deforestation is elucidated, which must be addressed from the cultural and the good practices of good relationships between people and their environment. Implementing practices that have the same purpose, but that are less harmful to forests, less dangerous and that do not emit GHGs.

Figure 32. Map of fires in the reference region of the YAAWI IIPANA REDD+ Grouped Project



Source: YAWI IIPANA REDD+ Group Project

¹⁸ Figure compiled from the National Unit for Disaster Risk Management, 2017

2.5.2 Segments

In consideration of the Amazon REDD+ Vision Program developed in the Amazon region of the country and in compliance with the non-double accounting of emissions reduction, the deforestation segment begins on January 1, 2017 while the estimate for degradation on January 1 January 2016. Below are the segments identified within the framework of the PMCC, in harmony with what is established by the certification program:

Table 32. Segments included in the REDD+ project in the baseline scenario

Segment	Justification Removal/reduction factors	Projection system
Deforestation	Unplanned deforestation due to the deforestation agents and factors included in section 2.5.1.	Puyravaud (2003)
Forest degradation	Forest degradation due to selective exploitation Fragmentation Analysis IDEAM of individuals and ecosystem fragmentation processes.	

Source. Grouped Project FAST IIPANA REDD+

2.6 Project scenario

In the project implementation scenario, it is planned to establish productive, environmental and social activities that allow local needs to be met and at the same time allow the reduction of emissions due to deforestation and avoided degradation.

The activities of the YAAWI IIPANA REDD+ Cluster Project are described in depth in Annex 16 and briefly in [section 1.7.2](#) of this [document](#), and in [section 2.2](#). Additionality: traceability is carried out from the identification of actors and drivers of deforestation and how the lines of action (REDD+ activities) contribute to the change in behavior of these actors and drivers of deforestation, the means established to achieve said objective and the monitoring methods that would generate support for the activities carried out

On the other hand, it is clarified that those activities that contribute to these same objectives that are executed jointly or by external actors in the project territory will also enter the documentation and reporting, without prejudice to the fact that this affects the rights of property on carbon. Since the approach applied from the project is established from the local to the regional, generating synergies with territorial actors that have the same purposes.

2.6.1 Segments

The segments in the monitoring years were established in accordance with the stipulations of the certification program, being the following:

Table 33. Segments of YAAWI IIPANA REDD+ in the scenario with project

Segment	Justification Removal/re-reduction factors	Projection system
Deforestation	Unplanned deforestation by the agen-Puyravaud (2003) deforestation factors and factors included in section 2.2.1.	
Forest degradation-Forest of	Forest degradation by harvesting-IDEAM Fragmentation Analysis Selective development of individuals and ecosystem fragmentation processes.	

Source. Grouped Project FAST IIPANA REDD+

2.7 Sources of GHG emissions

Below are the emission sources included in the baseline, project and leakage scenario of the YAAWI IIPANA REDD+ initiative, according to section 6.3.6 Identification of GHG emission sources of the Circarbon Protocol for *Certification Carbon Voluntary V 4.1.*, for the Land Use sector.

Table 34. GHG Emission Sources Grouped Project RESPONSE IIPANA REDD+

Activity	Baseline scenario Project scenario Leakage								
	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O
Avoidance of emissions GHG emissions (EvE)	AND	NO	NO YES				NO NO YES NO NO		

Source. Grouped Project FAST IIPANA REDD+

2.8 Carbon reservoirs

The following table presents the carbon reservoirs of both the baseline and the project scenario, established by the *Cercarbono Protocol for Voluntary Carbon Certification V 4.1.*, in accordance with the values of the most updated reference level , 2019, as provided by resolution 1447 of 2018.

Table 35. Carbon stocks associated with the baseline and project scenarios

Reservoir	Def You		Baseline scenario	Project scenario
Aerial tree biomass area and not arborea	x	x	Large carbon reserve that can be affected by project activities, includes tree and non-tree woody biomass (trees, shrubs and herbaceous) includes stems, stumps, branches, bark, seeds and foliage.	It is expected to be maintained by project activities with restoration activities of degraded areas and/or conservation of forest areas. It is likely that sustainable forest management activities will be included in the future if the proponent decides, which would generate an increase in reserves.
Biomass underground what	x	x	Large carbon stock may be affected by project activities, including living biomass roots greater than 2 mm in diameter.	It is expected to be maintained or increased by activities of the project with sustainable forest management activities, restoration of degraded areas and/or conservation of forest areas
Wood dead			Excluded because effective monitoring is unfeasible	Excluded because effective monitoring is unfeasible
Waste Forestry			Excluded because effective monitoring is unfeasible	Excluded because effective monitoring is unfeasible
Carbon soil organic	X -		Included for deforestation activity, includes the mineral and organic COS at a minimum depth of 30 cm and roots of less than 2 mm in diameter. Conservatively excluded from the activity of	Included for deforestation activity, expected to be maintained due to control of avoided cover changes

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Reservoir	Def You	Baseline scenario	Project scenario
		degradation due to the regulation times of this reservoir (> 20 years).	
wood products		It is excluded because the project does not yet contemplate forest management activities. Sustainable in the baseline scenario	It is excluded because the project does not yet contemplate sustainable forest management activities in the project implementation scenario.

Source: YAWI IIPANA REDD+ Group Project

2.9 Methodological deviations

The YAAWI IIPANA REDD+ Grouped Project enters as a new grouped project, which is why it does not present methodological deviations in its structuring. However, the second instance has certain characteristics that were described in [section 2.4](#).

2.10 Accreditation period

The accreditation period consists of 20 years starting on 01/01/2016 until 12/31/2035 and must be renewed for the last 10 years of the project in accordance with section "6.7. Accreditation period" of the "Protocol for the voluntary certification of Cercar-bono coal, CVCC V. 4.1".

The start date of the accreditation period of the YAAWI IIPANA REDD+ Group Project starts with the formulation of the life plan of the Morichal Viejo reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and the implementation of the Territory and Thematic Axis activities Life Plan Environment, such as argued in [section 1.7.1](#) and [1.8.1](#)

3 Quantification of GHG emissions and removals or reductions of GHG emissions

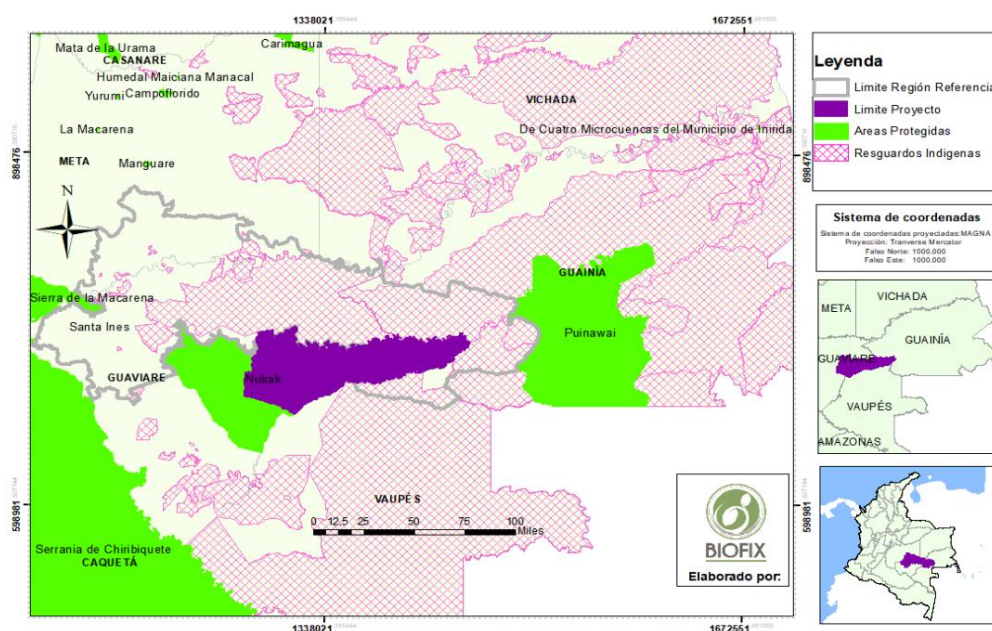
3.1 Quantification of GHG emissions and removals in the baseline scenario

To carry out the process and quantification of Baseline Emissions, the indications of the REDD+ methodology were followed for the execution of REDD+ projects consistent with the reference levels presented by Colombia to the UNFCCC Version 1.3. The reference deforestation rate was calculated from the reference region area. The deforestation rate is based on the approach of the deforestation trend in the reference area through the Puyravaud equation (2003). The following sections summarize the analyzes and equations to determine the baseline; the detailed calculations are found in Annex 13.

3.1.1 Reference Region Area to project the rate of deforestation and forest degradation

The delimitation of the Reference Region was carried out following the methodology described in [section 1.4.2.1.3](#) of this document. Through geospatial analysis of landscape and transportation factors. Excluding other areas of REDD+ projects, areas of the National System of National Natural Parks, no planning areas were registered with current authorizations or permits for the use of timber forest resources.

Figure 33. Project reference region map

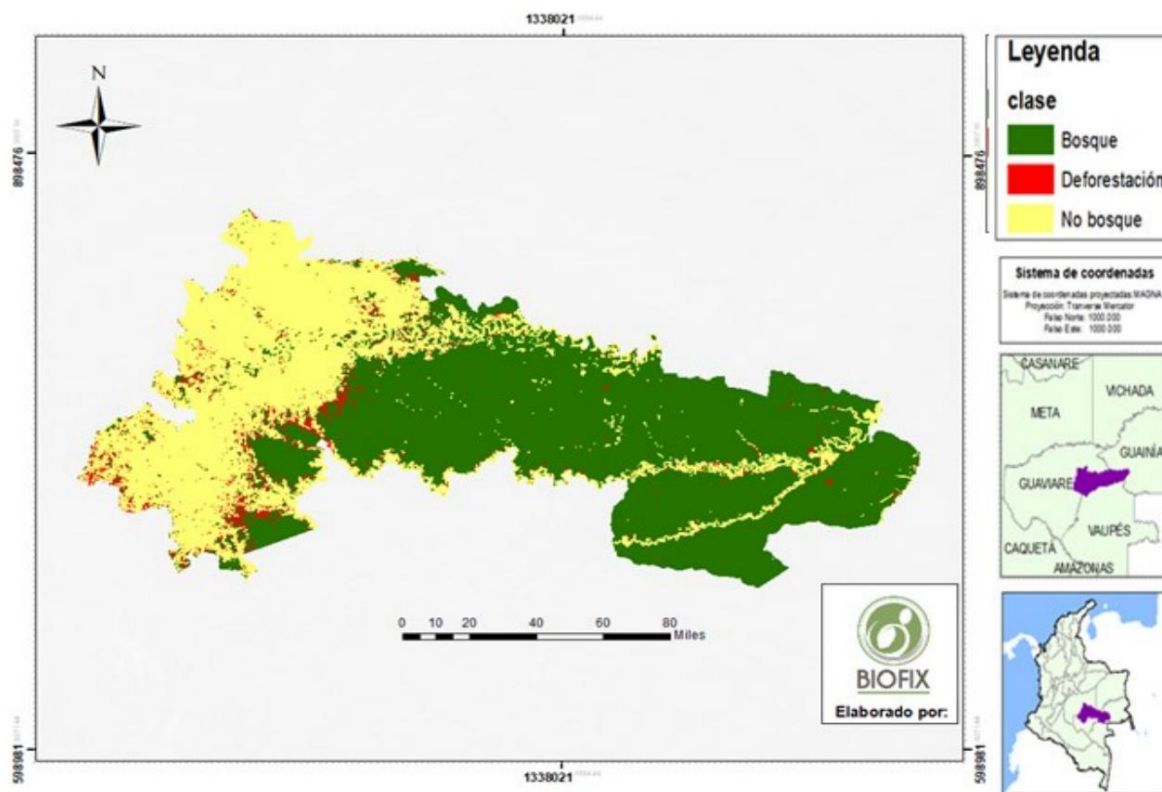


Source. Grouped Project FAST IIPANA REDD+

Once the spatial limits were defined as shown in [section 1.4.2.1](#), the analysis was carried out using remote sensors to determine how the change in forest cover has been converted from other land use categories within the reference region. Resulting in the coverage change matrix for the year 2014

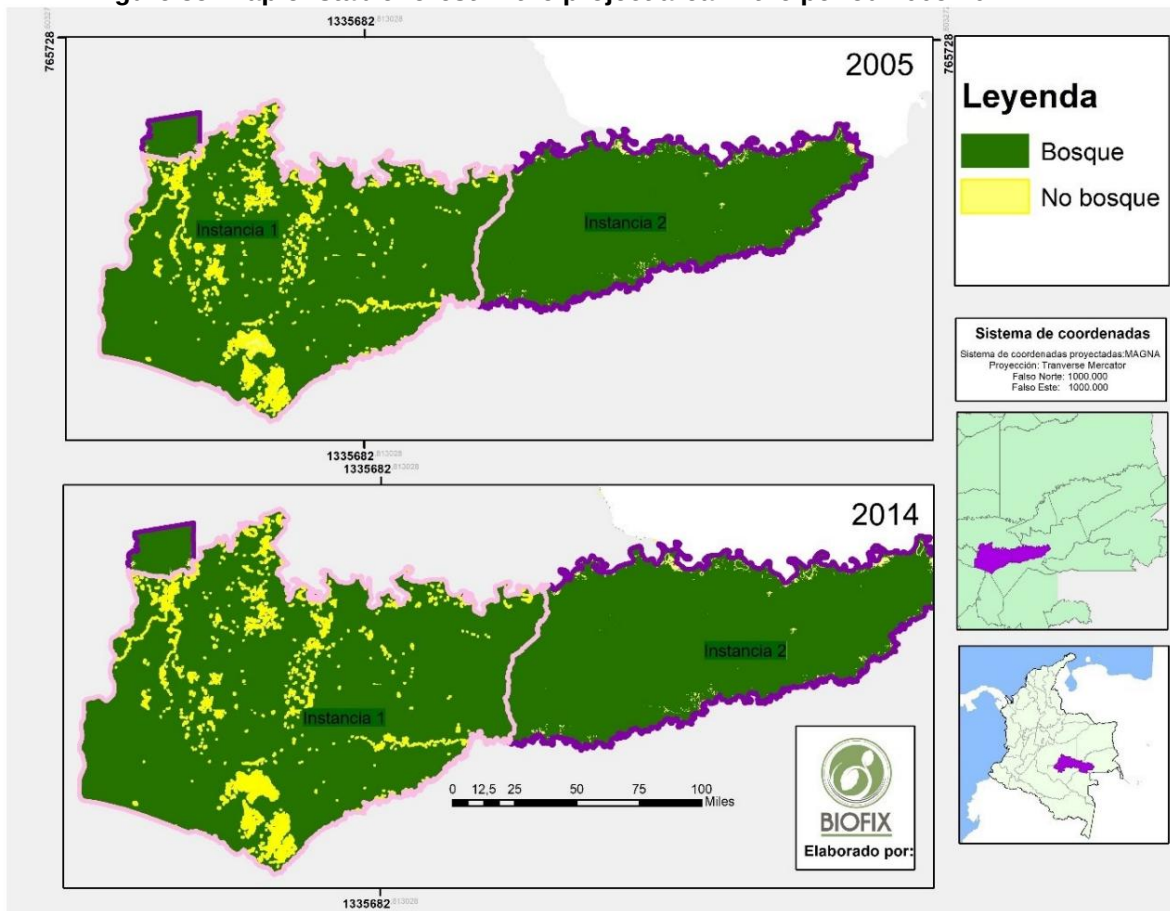
as it's shown in the following:

Figure 34. Deforestation change map of reference region IIPANA REPORT 2005-2014



Source. Grouped Project FAST IIPANA REDD+

Figure 35. Map of stable forest in the project area in the period 2005-2014



Source. Grouped Project FAST IIPANA REDD+

To obtain the land use change matrix described in 2. the CERCAR-BONO methodology V. 1.3. An intercept was made with the use of the *Analysis Tools / Overlay / Intercept* tool using the layers with the final categories and the respective areas. The changes in land use from forest in 2005 to non-forest categories in 2014 are found in the Figure above, and the change in land use from forest to non-forest (other cover categories) in the following tables

Table 36. Land use change matrix Grouped Project RESPONSE IIPANA REDD+

Categories	Wetlands Natural	Forest	Heterogeneous agricultural areas denies	Pastures	Settlement Other lands		Secondary vegetation	Total 2005
Wetlands	31781	0	3354	3927	0	449	4779	44291
Bosque Natural	8114	2700278	8929	77580	623	4112	23001	2822636
Heterogeneous agricultural areas	3802	0	5267	4137	158	606	4229	18199
Pastures	7132	0	1871	603705	294	3139	7013	623153
Settlement	0	0	215	105	1159	0	31	1511
Other lands	4959	0	0	7687	132	6490	5148	24417
Secondary vegetation	4918	0	2231	7082	205	2090	22779	39305
Total 2014	60705	2700278	21868	704224	2571	16886	66981	3573512

Source. Grouped Project FAST IIPANA REDD+

Table 37. Areas of change in the reference region

Class of 2006	Class of 2014	Area	Percentage
Bosque Natural	heterogeneous agricultural areas (ha)	8.829	7.3
	Pastures (ha)	77.580	63.4
	Settlements (ha)	623	0.5
	Wetlands (ha)	8.114	6.6
	Other land (ha)	4.112	3.4
	Secondary vegetation(ha)	23.001	18.4
	Total (ha)	122.358	100,0

Source. Grouped Project FAST IIPANA REDD+

3.1.2 Calculation of the deforestation rate

To determine the deforestation rate, data from the 10-year historical period were available; 2005 and 2014 complying with the criteria of the CERCARBONO V methodology. 1.3. which indicates that the historical reference period must be equal to or greater than 10 years, in this case complying with 10 years of available information. Which enables the calculation of the deforestation rate of Puyravaud (2003), as shown below:

$$TFD = \left(\frac{1}{(x_2 - x_1)} \times \ln \frac{A_2}{A_1} \right) \cdot 100$$

Where:

A1: Forest areas in the first year of the analyzed deforestation period. (ha)

A2: Forest areas in the last year of the analyzed deforestation period. (ha)

X1: Initial year of the analysis period.

X2: Final year of the analysis period

TDF: Fixed annual deforestation rate

Table 38. Areas B / NB for the baseline period 2005 – 2014

CLASS	2005	2014
FOREST (ha)	2.822.636	2.700.278
NO FOREST (ha)	750.877	873.235
TOTAL (ha)	3.573.512	3.573.512

Source. Grouped Project FAST IIPANA REDD+

Obtaining as a result a deforestation rate in the reference region of 0.44% (2005-2014) which represents an expected deforestation for the year 2016 of the REDD+ project of 1787 hectares.

3.1.3 Estimation of the annual areas of unplanned baseline deforestation in the project area.

By multiplying the deforestation rate by the forest area since 2016, which is the year the project began, we have the following¹⁹:

$$A_{defLB_t} = TFD \times A_{def}$$

¹⁹ The data presented will only be for the first instance of the project and for the accreditation period of 20 years

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Where:

AdefLBt: Annual deforested area of the baseline scenario of the deforestation segment. (ha)

Adef: Forest area susceptible to deforestation. (ha)

TDF: Fixed annual deforestation rate

The following table describes the values of unplanned deforestation for the crediting period exclusively for instance 1.

Table 39. Unplanned deforestation in the project area in the baseline

t	Year	r	Projection of deforested area annually 1,787	Remaining area
1	2016	-0.004		403.199
2	2017	-0.004	1.779	401.412
3	2018	-0.004	1.771	399.633
4	2019	-0.004	1.763	397.862
5	2020	-0.004	1.755	396.099
6	2021	-0.004	1.748	394.344
7	2022	-0.004	1.740	392.596
8	2023	-0.004	1.732	390.856
9	2024	-0.004	1.724	389.124
10	2025	-0.004	1.717	387.400
11	2026	-0.004	1.709	385.683
12	2027	-0.004	1.702	383.974
13	2028	-0.004	1.694	382.272
14	2029	-0.004	1.687	380.578
15	2030	-0.004	1.679	378.891
16	2031	-0.004	1.672	377.212
17	2032	-0.004	1.664	375.540
18	2033	-0.004	1.657	373.876
19	2034	1,650 -0 ,004 1,642	<i>Fountain. Grouped</i>	372.219
20	2035	<i>Project FAST IIPANA REDD+</i>		370.570

3.1.4 Reduction of projected emissions from unplanned deforestation

To determine the potential for reductions due to unplanned deforestation, the following equation was used.

$$E_{\text{unplanned}} = E_{\text{baseline}} + (A_{\text{def}} \times F_{\text{air}} + F_{\text{underground}} + F_{\text{soil}})$$

Where:

- $E_{\text{unplanned}}$: Project emissions from deforestation
- E_{baseline} : Deforestation area in the project in stratum f
- F_{air} : Air biomass emission factor
- $F_{\text{underground}}$: Underground biomass emission factor
- F_{soil} : Soil organic carbon emission factor

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The emission factors used are those of the NREF for Colombia for the year 2019, which are presented below:

Table 40. Carbon pools for deforestation reference period

Carbon reservoirs	Emission factor ex – before Amazon Biome (NREF)	Emission factor ex – post Amazon Biome
Air Biomass (tCO ₂ /ha)	444.4	416.38
Underground Biomass (tCO ₂ /ha)	99.0	71.43
Soil Organic Carbon (tCO ₂ /ha)	13.6	11.25

Source. Grouped Project FAST IIPANA REDD+

Resulting:

Table 41. Estimated reduction of projected emissions from deforestation

t	year	Projection of Area deforested annually (ha)	Reduction of annual GHG deforestation emissions (t CO ₂ e)
1	2016	1.787*	891.727*
2	2017	1.779	887.775
3	2018	1.771	883.841
4	2019	1.763	879.924
5	2020	1.755	876.024
6	2021	1.748	872.142
7	2022	1.740	868.277
8	2023	1.732	864.429
9	2024	1.724	860.598
10	2025	1.717	856.784
11	2026	1.709	852.987
12	2027	1.702	849.207
13	2028	1.694	845.444
14	2029	1.687	841.697
15	2030	1.679	837.967
16	2031	1.672	834.253
17	2032	1.664	830.556
18	2033	1.657	826.875
19	2034	1.650	823.211
20	2035	1.642	819.563

* The emissions reduction value corresponding to the deforestation segment was disregarded from the validation and verification calculations to avoid double counting with the Amazon Vision program.

Source. Grouped Project FAST IIPANA REDD+

3.1.5 Estimation of historical forest degradation

Forest degradation processes are one of the most important aspects, after deforestation, that affect forests in Colombia. These processes are contributing negatively every day to the destruction of natural habitats and the extinction of species, and have had great impacts on ecosystems and their carbon storage and climate. Therefore, the spatial patterns of degradation must be analyzed to identify and monitor these potential degraded areas during the analysis periods.

To study the degradation of the forest in the territory, the potentially useful data are images from remote sensors, coverage and vegetation maps with the measurement of the behavior of the forest and social inputs that account for the state and changes resulting from the interventions. The proposed analyzes are aimed at identifying, knowing and establishing the extent of the degraded forest area in different periods of time.

3.1.5.1 Inputs and methods

All multi-temporal spatial information related to both optical and radar (SAR) images and secondary data such as those taken in the field are used only if they are available. The images that are selected and finally used for the analyzes must correspond to at least two different time periods. Since degradation is a time-varying process, multi-temporal analysis is recommended with the largest number of images available, following the following steps:

1. A processing is carried out that is based on the "Digital Image Processing for the Quantification of Deforestation" Protocol, for the pre-processing and processing of the images and the detection of areas of change, both deforestation and deforestation. gradation in Forest for the periods of interest. Next, the geoprocessing process:

Optical images:

- to. Selection and downloading of images
- b. Pre-processing
- c. Stacking or compiling bands
- d. Geometric Correction
- and. Data conversion process to Reflectance surface f. Cloud masking
- g. Radiometric normalization process
- h. Generation of image composites
- Yo. Change detection

SAR (Synthetic Aperture Radar) radar images:

- to. Image acquisition b.
- Radiometric calibration
- c. Multilook d.
- Geometric calibration e.
- Terrain correction
- F. -Filter application to reduce speckle g noise. Mosaic
- images h. Index
- generation/transformation
- Yo. Classification

2. Multitemporal analysis of changes due to forest degradation

The Institute of Hydrology, Meteorology and Environmental Studies - IDEAM created a methodology with the support of FAO and the UN Program -REDD+ for the estimation of degradation based on forest fragmentation and condenses it into a protocol.

This forest cover fragmentation methodology is based on the following definitions.

Parche: Forest fragments smaller than 101 hectares.

Core: Forest fragments with a minimum area of 202 hectares.

Permanence: It is the condition resulting from the project activities by which the system established within its limits extends continuously and over time the function of removing GHG from the atmosphere.

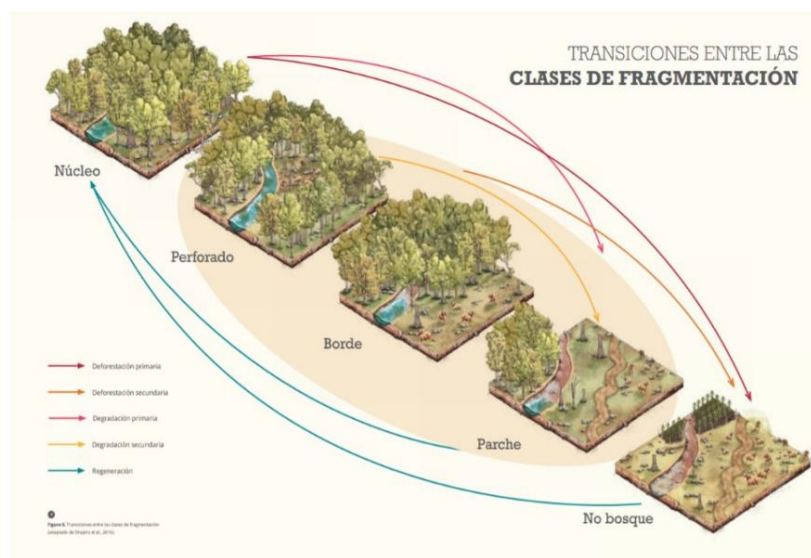
Perforated: Limit of non-forest areas, surrounded by forest fragments between 101 and 202 hectares, at a distance from the forest edge of 100 m.

Forest: Land occupied mainly by trees, which may contain shrubs, palms, guaduas, herbs and lianas, in which tree cover predominates with a minimum canopy density of 30%, a minimum canopy height (in situ) of 5 m at the time of identification, and a minimum area of 1.0 ha. Tree covers of commercial forest plantations, palm crops, and trees planted for agricultural production are excluded.

The definition of forest refers to natural forest. This definition is consistent with the criteria defined by the UNFCCC in its decision 11/COP.7, with the definition adopted by Colombia before the Kyoto Protocol, as well as with the definition of natural forest cover included in the adaptation for Colombia from the legend of the methodology Corine Land Cover -CLC Colombia.

Non-forest: Land that has never had forest cover, that is incapable of supporting trees, or that was previously tree cover, but changed to a different cover. It includes commercial forest plantations, palm crops and trees planted for agricultural production (IDEAM).

3. The fragmentation class map is generated from the definitions presented in the following figure:

Figure 36. Description and degree of degradation of fragmentation classes

Source: (adapted from Shapiro et al., 2016). Taken: Ramírez-Delgado JP 2018.

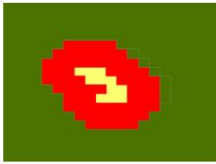
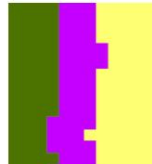
This methodology of estimating forest degradation based on transitions between fragmentation classes separates deforestation from degradation into different segments or polygons. In this way, overlap between the areas of these two categories is avoided.

Deforestation: core – not forest; edge - not forest

Downgrade: core - patch; perforated - patch

In this way, the degree of degradation was determined for each of the fragmentation classes and the different changes that these classes can have in a given period of time.

Figure 37. Class fragmentation degradation

Core	Patch	Perforated	should	Not forest
				

Source: Grouped Project YAAWI IIPANA REDD+ applying Ramírez-Delgado processes JP

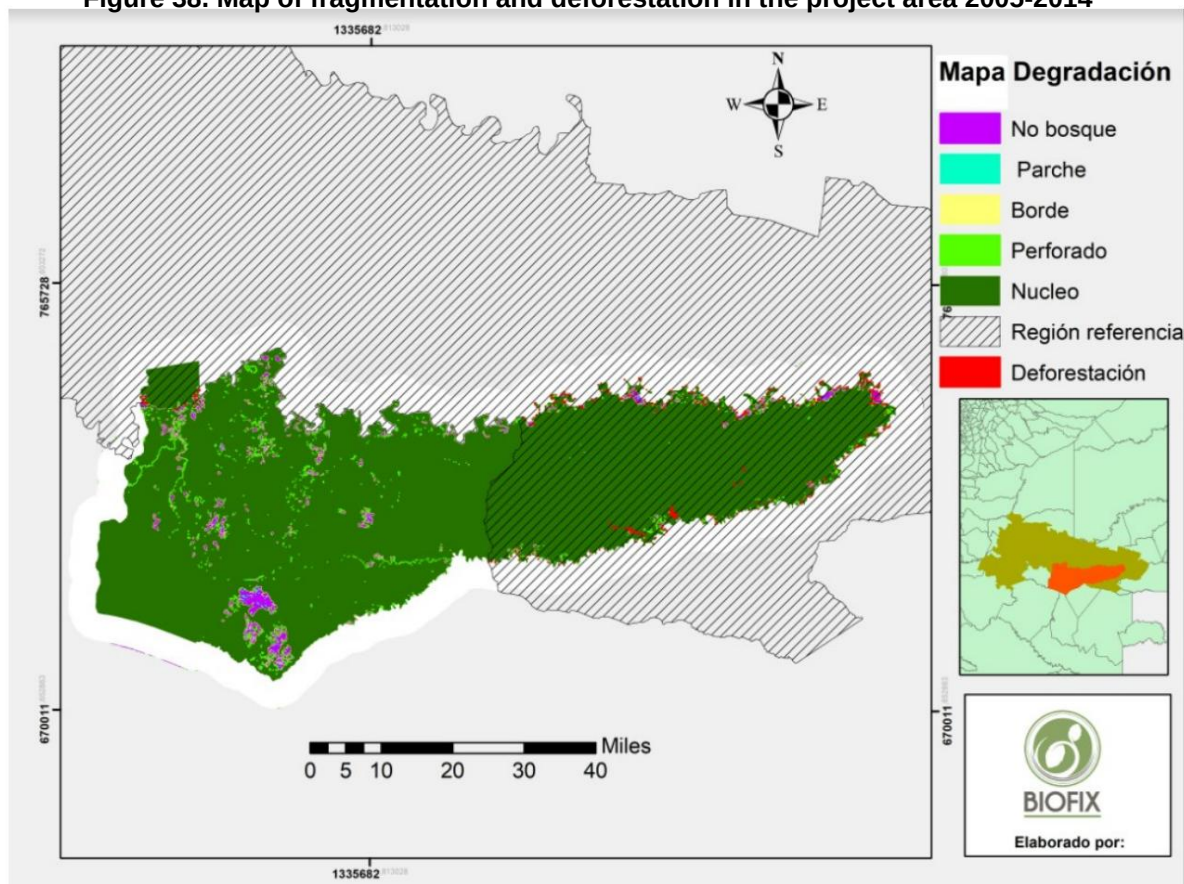
4. The map and fragmentation classification tables are generated for the project area, separating the segments or polygons of both areas with deforestation and degradation.

They can also be separated to avoid overlaps and double counting with the use of the attribute tables of each generated GIS layer.

5. Debugging of possible overlaps between areas with deforestation and forest degradation, in the cases that apply, where for the same period of time in comparison, it is verified that there is no overlap or overlap of areas of polygons or segments of the same category of deforestation and degradation. This is done since the deforestation information used in the projects is the official one published by IDEAM and which is carried out with a different methodology than the analysis based on fragmentation.

The degradation layers are compared based on fragmentation and deforestation polygons (IDEAM), to identify if any overlapping areas occur. If an overlapping area occurs, it is not taken into account for the degradation calculations and for this a clip or cut is made and it is excluded from the degradation layer and thus this same area is only left in the deforestation layer. .

Figure 38. Map of fragmentation and deforestation in the project area 2005-2014



Source. Grouped Project FAST IIPANA REDD+

Figure 39. Matrix of changes due to degradation

Degradacion proyecto 2016 a 2019					
	FID	Shape *	Shape_Area	cod_inicia	cod_final
▶	0	Polygon ZM	14122,330022	No Bosque	No Bosque
	1	Polygon ZM	1,104624	No Bosque	Borde
	2	Polygon ZM	2,045056	Parche	No Bosque
	3	Polygon ZM	215,130891	Parche	Parche
	4	Polygon ZM	76,428373	Borde	No Bosque
	5	Polygon ZM	9,388664	Borde	Parche
	6	Polygon ZM	9668,369694	Borde	Borde
	7	Polygon ZM	46,534338	Perforado	No Bosque
	8	Polygon ZM	0,371829	Perforado	Parche
	9	Polygon ZM	174,92823	Perforado	Borde
	10	Polygon ZM	8195,057877	Perforado	Perforado
	11	Polygon ZM	0,022185	Perforado	Núcleo
	12	Polygon ZM	214,206022	Núcleo	No Bosque
	13	Polygon ZM	1,022528	Núcleo	Parche
	14	Polygon ZM	183,661856	Núcleo	Borde
	15	Polygon ZM	455,802524	Núcleo	Perforado
	16	Polygon ZM	384001,965625	Núcleo	Núcleo

Source: YAWI IIPANA REDD+ Group Project

Thus, historical degradation is applied, in accordance with the procedures applied by the country for estimating emissions reductions, with the aim of facilitating nesting at subnational levels or at the national level that defines the country as part of its strategy for estimating emissions reductions to avoid deforestation and degradation.

In this way, the estimation of forest degradation areas was carried out for the reference, monitoring and credit period, both for the reference region, as well as for the project area and the leakage belt, the following table shows The columns show the number of hectares within each analysis category (core, drilled and patch) for each year of analysis (2005-2014).

Column D1 and D2 show the areas of primary and secondary degradation that occurred in the year of analysis by crossing the data of the hectares of each category. as shown in the following table.

Table 42. Fragmentation analysis degradation data for (2005-2014)

		Primary and Secondary Degradation Data				
Scale	Year	Core (>202 ha)	Perforated (101 to 202 ha)	Parcels (<101 ha)	D1 (Core - Patch)	D2 (Drilled - Patch)
Reference Region	Q1 2005	0	0	0	0	0
	T2 2014	33.702	126	87.716	500	3.685
	T3 2016	N/A	N/A	N/A	N/A	N/A
Project Area	Q1 2005	N/A	N/A	N/A	N/A	N/A
	T2 2014	0	0	0	0	0
	T3 2016	214	47	2	1	0
Leakage Area	Q1 2005	0	0	0	88	0
	T2 2014	26	9	1.121	0	0

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	T3 2016	0	0	0	0	0
	Q4 2019	148	48	2	1	1

Source. Grouped Project FAST IIPANA REDD+

Resulting in an annual average historical primary degradation rate of **50 ha** and **369 ha** of secondary degradation in the reference area between the period 2005-2014, of which with the implementation of the project it is projected to reduce by 7%, which is the equivalent index between the ratio of the eligible area of the REDD+ project and the forest area of the reference region, that is, the project plans to mitigate 3 ha of **primary** degradation and **26 ha** of secondary degradation annually according to the 2005 baseline -2014.

The above is intended to be achieved thanks to active intervention through lines of action such as the program for monitoring and controlling deforestation and forest degradation and participatory reforestation of degraded ecosystems proposed in section 1.7.2 [of this document](#).

Now, to determine the emission factors corresponding to primary degradation and secondary degradation, it is important to take into account that the process of each depends on the fragmentation of forest cover.

A primary degradation process is when a core area (>202 ha) becomes a patch area (<101 ha), at this point the emission sources occur due to the degradation process of loss of coverage that causes the emission of GHG due to the release of CO₂ that represents the loss of biomass from the natural system. In the case of secondary degradation, the emission source is the same, but the emission factor is lower, because the degradation process is to go from drilled areas (between 101 – 202 ha) to patch areas (<101 ha).).

Thus, it could be said that according to IDEAM, 2017, a natural forest has 100% mitigation potential according to the reservoirs of above-ground and underground biomass and soil organic carbon. While a forest cover in the process of degradation may only have aerial and underground biomass as reservoirs, 70% when it is primary degradation and 30% when it is secondary degradation.

These values are used as factors in quantifying emissions reduction.

because.

Finally, given that no permits or authorizations for commercial forestry use were identified in the project area, the extraction of wood for commercial purposes was not included as an emission source, and, in application of the principle of being conservative, Nor was the extraction of wood for firewood or charcoal included in the quantification of degradation since the process, agent and motor may be corresponding to fragmentation and double accounting would be generated by the same process of loss of coverage.

3.1.6 Reduction of projected emissions due to forest degradation

To determine the potential for reductions due to forest degradation, the following equations were used.

$$RAD = (CSBD1lb \times DCBF1lbeq) - (CSBD2lb \times DCBF2lbeq)$$

Where:

RAD: Annual emissions reduction in the scenario without project; tCO₂/ha

CSBD1lb: Historical annual primary degradation in the scenario without project; ha

DCBF1lbeq: Equivalent carbon dioxide contained in the difference in total biomass per hectare in the primary degradation class; tCO₂e/ha

CSBD2lb: Annual historical secondary degradation in the scenario without project; ha

DCBF2lbeq: Equivalent carbon dioxide contained in the difference in total biomass per hectare in the secondary degradation class; tCO₂e/ha

Now, to determine the emissions from the implementation of the project, the following equation was used:

$$ADim = (CSBD1im \times DCBF1imeq) - (CSBD2lb \times DCBF2imeq)$$

Where:

ADim: Annual emission in the project implementation scenario; tCO₂/ha

CSBD1: Annual historical primary degradation in the scenario with project; ha

DCBF1lbeq: Equivalent carbon dioxide contained in the difference in total biomass per hectare in the primary degradation class; tCO₂e/ha

CSBD2lb: Annual historical secondary degradation in the scenario with project; ha

DCBF2lbeq: Equivalent carbon dioxide contained in the difference in total biomass per hectare in the secondary degradation class; tCO₂e/ha

To determine the carbon dioxide equivalent of both primary degradation and secondary degradation, in the project implementation scenario, through REDD activities, a factor of 7% is used.

The emission factors used are those of the NREF for Colombia for the year 2019, which are presented below:

Table 43. Carbon pools for forest degradation

CARBON RESERVOIRS	AMAZON BIOME
Difference carbon content in total biomass primary degradation (tC/ha) – DCBFD1 Difference carbon	103.6
content in total biomass secondary degradation (tC/ha) – DCBFD2	59.22

Source. YAAWI IIPANA REDD+

Grouped Project based on NREF for Colombia 2019.

Resulting:

Grouped Project FAST IIPANA REDD+

Table 44. Estimated emissions reduction due to forest degradation

t	year	Annual20 degraded Area projection -Annual GHG degradation emissions reduction (t mente (ha)	
			CO2e)
1	2016	29 6.931	
2	2017	29	6.931
3	2018	29	6.931
4	2019	29	6.931
5	2020	29	6.931
6	2021	29	6.931
7	2022	29	6.931
8	2023	29	6.931
9	2024	29	6.931
10	2025	29	6.931
11	2026	29	6.931
12	2027	29	6.931
13	2028	29	6.931
14	2029	29	6.931
15	2030	29	6.931
16	2031	29	6.931
17	2032	29	6.931
18	2033	29	6.931
19	2034	29	6.931
20	2035	29	6.931

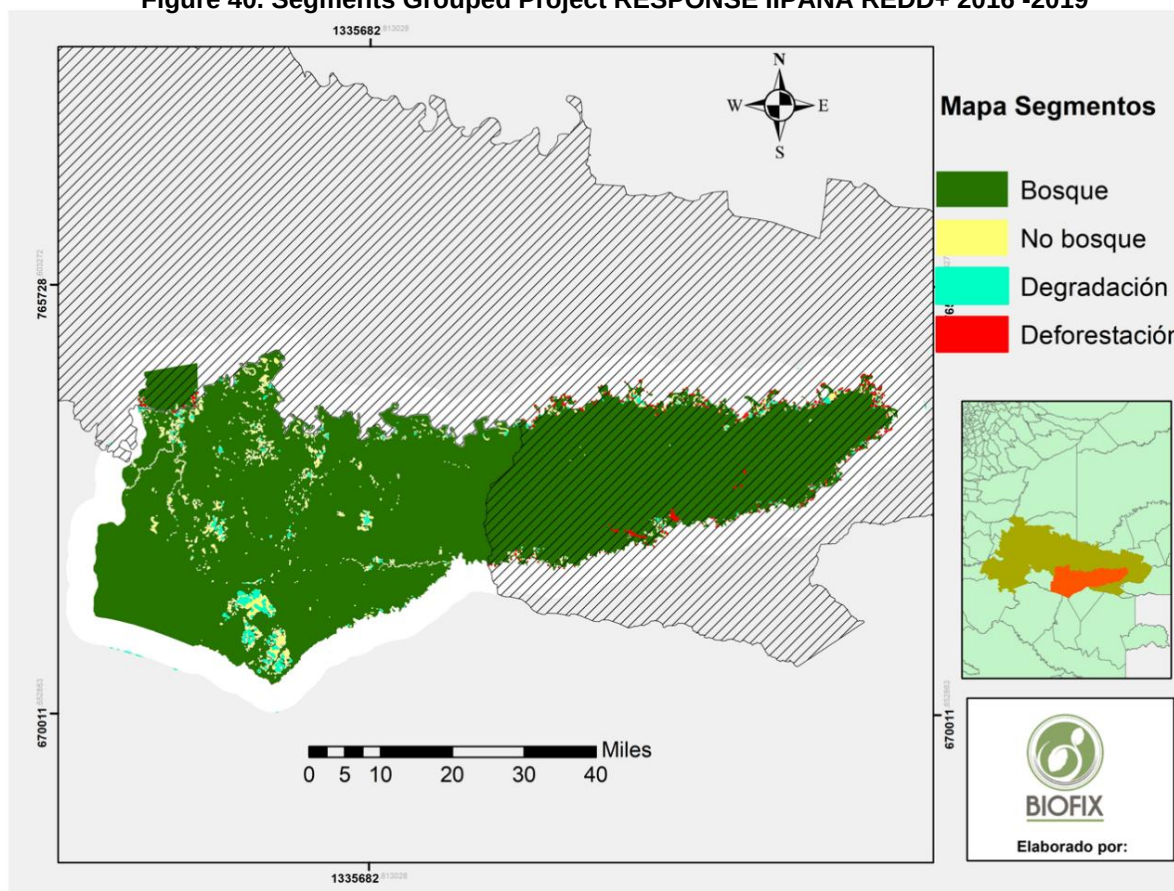
Source. Grouped Project FAST IIPANA REDD+

Since the deforestation segment is determined in areas of stable forest and the degradation in areas with processes of loss of coverage between 70% and 30%, both segments can be mapped in different polygons as shown below, -showing that there is no double counting:

²⁰ Sum of primary and secondary degradation areas

Grouped Project FAST IIPANA REDD+

Figure 40. Segments Grouped Project RESPONSE IIPANA REDD+ 2016 -2019



Source. Grouped Project FAST IIPANA REDD+

3.1.7 Reduction of total projected emissions from deforestation and degradation forestry

Thus, the baseline for deforestation and forest degradation activities in the project validation period is as follows:

Table 45. Baseline of deforestation and forest degradation activities.

Year		Baseline area (ha)			Reduction of emissions (t CO ₂ e)		
t	year	Deforestation	Degradation	Total	Deforestation	Degradation	Total
1	2016	0	29	1.816	0	6.931	6.931
2	2017	1.779	29	1.808	887.775	6.931	894.706
3	2018	1.771	29	1.800	883.841	6.931	890.772
4	2019	1.763	29	1.792	879.924	6.931	886.855
5	2020	1.755	29	1.785	876.024	6.931	882.955
6	2021	1.748	29	1.777	872.142	6.931	879.073
7	2022	1.740	29	1.769	868.277	6.931	875.208
8	2023	1.732	29	1.761	864.429	6.931	871.360
9	2024	1.724	29	1.754	860.598	6.931	867.529
10	2025	1.717	29	1.746	856.784	6.931	863.715
11	2026	1.709	29	1.739	852.987	6.931	859.918
12	2027	1.702	29	1.731	849.207	6.931	856.138
13	2028	1.694	29	1.723	845.444	6.931	852.375

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14	2029	1.687	29	1.716	841.697	6.931	848.628
15	2030	1.679	29	1.708	837.967	6.931	844.898
16	2031	1.672	29	1.701	834.253	6.931	841.184
17	2032	1.664	29	1.694	830.556	6.931	837.487
18	2033	1.657	29	1.686	826.875	6.931	833.807
19	2034	1.650	29	1.679	823.211	6.931	830.142
20	2035	1.642	29	1.672	819.563	6.931	826.494
TOTAL		32.485	586	33.071	16.211.554	138.622	16.350.176

Source. Grouped Project FAST IIPANA REDD+

3.2 Quantification of GHG emissions and removals or reductions of GHG emissions in the project scenario

The YAAWI IIPANA REDD+ Grouped Project does not expect to make emissions that must be accounted for in the baseline scenario, neither for deforestation nor for forest degradation, since within the project area there are no permits or authorizations for forestry exploitation. For commercial purposes. The uses made are for subsistence and to satisfy vital needs for domestic use and are protected by article 215 of Decree Law 2811 of 1974.

On the other hand, the activities of the REDD+ project established in the lines of action are not directed at large-scale projects that emit an amount of GHG that must be quantified and, in terms of infrastructure, they will focus on the non-eligible areas of the indigenous reservation. , in order to make the minimum impact on the natural forests of the eligible area.

However, the project emissions that are determined in the ex-post evaluation will be quantified and discounted to obtain the net emissions reduction by the project.

3.3 Leaks

3.3.1 Leakage due to deforestation

The leak methodology for the deforestation activity was calculated in the same sequential way as in the project area, but landed on the delimited leak belt following the methodology described in section 1.4.2.1.2, the equation [used for this](#) was The next:

The deforestation rate in the leak belt area was determined by multiplying the deforestation rate determined by the following equation

$$K_{\text{leak}} = \text{TFD} \times A_d$$

Where:

AdefLKt: Annual deforested area in the leakage belt of the deforestation segment. (ha)

Adef: Forest area susceptible to deforestation. (ha)

TDF: Fixed annual deforestation rate

Taking into account that the deforestation rate of the reference area is 0.44 in the baseline, caused by the identified agents and drivers of deforestation, and that these same are potential deforesters of the forests of the leak belt, it was also observed -The leak belt has a potential deforestation area of **311,743 ha** for the year 2016, calculated from the baseline, of which based on the activities of the lines of action, specifically those of monitoring and control of deforestation and forest degradation, the strengthening of institutional governance, participatory reforestation and the lines of strengthening productive economic activities (described in section 1.7 **and** in annex 16), the YAAWI IIPANA REDD+ Grouped Project assumes 15% of leaks due to the displacement of emissions that could be generated by the project. That is, an equivalent of **206 hectares** for the first year of the REDD+ project and projected as shown in the following table

To determine emissions from deforestation in the leak belt due to unplanned deforestation, the following equation was used.

$$2 K = , \ddot{y} (+ +)$$

Where:

- 2 : Project emissions from deforestation in the leak belt
- K : Deforestation area in the leak belt in stratum f
- $\ddot{y}$: Air biomass emission factor
- $+$: Underground biomass emission factor
- $+$: Soil organic carbon emission factor

The emission factors used are the same as in the baseline, that is, those of the NREF 2019 for Colombia from the Amazon Biome. Obtaining as results:

Table 46. Estimation of emissions in the leak belt due to deforestation

t	year	Projected area of deforestation annually (ha)	Annual GHG emissions from deforestation (t CO ₂ e) 103,419*
1	2016	207*	
2	2017	206	102.961
3	2018	205	102.504
4	2019	204	102.050
5	2020	204	101.598
6	2021	203	101.148
7	2022	202	100.699
8	2023	201	100.253
9	2024	200	99.809
10	2025	199	99.366
11	2026	198	98.926
12	2027	197	98.488
13	2028	196	98.051
14	2029	196	97.617
15	2030	195	97.184
16	2031	194	96.753

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17	2032	193	96.325
18	2033	192	95.898
19	2034	191	95.473
20	2035	190	95.050

**values rejected due to non-inclusion of the deforestation segment for this year, to avoid double counting*

Source. Grouped Project FAST IIPANA REDD+

3.3.2 Leakage due to forest degradation

To determine emissions due to forest degradation in the leak belt, the following equation was used.

$$EADf = (CSBD1im.f \times DCFB1feq) - (CSBD2im.f \times DCFB2feq)$$

Where:

EADf: Annual emission in the leak area; tCO₂/ha

CSBD1im.f Annual primary degradation in the leak area in the scenario with project; ha

DCBF1beq: Equivalent carbon dioxide contained in the difference in total biomass per hectare in the primary degradation class; tCO₂e/ha

CSBD2im.f: Annual secondary degradation in the leak area in the scenario with project; ha

DCBF2beq: Equivalent carbon dioxide contained in the difference in total biomass per hectare in the secondary degradation class; tCO₂e/ha

In accordance with the baseline emissions, firewood extraction was not estimated within the leak area for degradation to maintain methodological coherence and avoid double counting and double discounting, in this case for the leak belt.

In addition, an increase in emissions in the leak area due to the implementation of REDD activities was estimated at 10% due to methodological recommendation, since it is more likely that there is a degradation due to the implementation of low-scale productive systems. However, when identifying that in the leak belt in the reference period there was no primary or secondary degradation events were identified, it was estimated that emissions due to degradation will be zero in the scenario with the project, however this must be corroborated in the verification periods.

3.3.3 Total leaks due to deforestation and forest degradation

In such a way that the projected leaks for the deforestation and forest degradation activities of the project's accreditation are as follows:

Table 47. Leakage due to deforestation and forest degradation.

Year		Baseline area (ha)			Reduction of emissions (t CO ₂ e)		
t	year	Deforestation	Degradation 0	Total	Deforestation	Degradation	Total
1	2016	0		0	0	0	0
2	2017	206	0	206	102.961	0	102.961
3	2018	205	0	205	102.504	0	102.504
4	2019	204	0	204	102.050	0	102.050
5	2020	204	0	204	101.598	0	101.598

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6	2021	203	0	203	101.148	0	101.148
7	2022	202	0	202	100.699	0	100.699
8	2023	201	0	201	100.253	0	100.253
9	2024	200	0	200	99.809	0	99.809
10	2025	199	0	199	99.366	0	99.366
11	2026	198	0	198	98.926	0	98.926
12	2027	197	0	197	98.488	0	98.488
13	2028	196	0	196	98.051	0	98.051
14	2029	196	0	196	97.617	0	97.617
15	2030	195	0	195	97.184	0	97.184
16	2031	194	0	194	96.753	0	96.753
17	2032	193	0	193	96.325	0	96.325
18	2033	192	0	192	95.898	0	95.898
19	2034	191	0	191	95.473	0	95.473
20	2035	190	0	190	95.050	0	95.050
TOTAL		3.767	0	3.767	1.880.153	0	1.880.153

Source. Grouped Project FAST IIPANA REDD+

3.4 Net GHG removals or net emissions reductions

GEI

The reductions in net GHG emissions from deforestation and forest degradation activities estimated by the project for the accreditation period are made based on the determination for each segment of the reduction of total emissions and the discounting of emissions and leaks. projected. Likewise, it is possible to determine the projected carbonizer by making the projected reserve discount for it.

It should be noted that the net emissions are compared with the ex-post analyzes in each verification, which will reflect the real discounts to be made to the baseline.

The following table shows the summary of the estimates of net GHG reductions for the accreditation period and useful life of the project.



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Table 48. Summary table of ex-ante emissions reduction of the useful life period and accreditation period of the project

Year		Reduction of total emissions (t CO2e)			Project Emissions (t CO2e)			Leak Emissions (15%) (t CO2e) Reduction of net emissions (t CO2e)						Reservation Discount (8%)			Carboncer
t	year	Def.	You.	Total	Def.	You.	Total	Def.	You.	Total	Def.	You.	Total	Def.	You.	Total	
1	2016	0	6.931	6.931	0	0	0	0	0	0	0	6.931	6.931	0	554	554	6.377
2	2017	887.775	6.931	894.706	0	0	0	102.961	0	102.961	784.814	6.931	791.745	62.785	554	63.340	728.406
3	2018	883.841	6.931	890.772	0	0	0	102.504	0	102.504	781.336	6.931	788.267	62.507	554	63.061	725.206
4	2019	879.924	6.931	886.855	0	0	0	102.050	0	102.050	777.874	6.931	784.805	62.230	554	62.784	722.020
5	2020	876.024	6.931	882.955	0	0	0	101.598	0	101.598	774.426	6.931	781.357	61.954	554	62.509	718.849
6	2021	872.142	6.931	879.073	0	0	0	101.148	0	101.148	770.994	6.931	777.925	61.680	554	62.234	715.691
7	2022	868.277	6.931	875.208	0	0	0	100.699	0	100.699	767.577	6.931	774.509	61.406	554	61.961	712.548
8	2023	864.429	6.931	871.360	0	0	0	100.253	0	100.253	764.176	6.931	771.107	61.134	554	61.689	709.418
9	2024	860.598	6.931	867.529	0	0	0	99.809	0	99.809	760.789	6.931	767.720	60.863	554	61.418	706.303
10	2025	856.784	6.931	863.715	0	0	0	99.366	0	99.366	757.418	6.931	764.349	60.593	554	61.148	703.201
11	2026	852.987	6.931	859.918	0	0	0	98.926	0	98.926	754.061	6.931	760.992	60.325	554	60.879	700.113
12	2027	849.207	6.931	856.138	0	0	0	98.488	0	98.488	750.719	6.931	757.650	60.058	554	60.612	697.038
13	2028	845.444	6.931	852.375	0	0	0	98.051	0	98.051	747.392	6.931	754.324	59.791	554	60.346	693.978
14	2029	841.697	6.931	848.628	0	0	0	97.617	0	97.617	744.080	6.931	751.011	59.526	554	60.081	690.930
15	2030	837.967	6.931	844.898	0	0	0	97.184	0	97.184	740.783	6.931	747.714	59.263	554	59.817	687.897
16	2031	834.253	6.931	841.184	0	0	0	96.753	0	96.753	737.500	6.931	744.431	59.000	554	59.554	684.876
17	2032	830.556	6.931	837.487	0	0	0	96.325	0	96.325	734.231	6.931	741.163	58.739	554	59.293	681.870
18	2033	826.875	6.931	833.807	0	0	0	95.898	0	95.898	730.978	6.931	737.909	58.478	554	59.033	678.876
19	2034	823.211	6.931	830.142	0	0	0	95.473	0	95.473	727.738	6.931	734.669	58.219	554	58.774	675.896
20	2035	819.563	6.931	826.494	0	0	0	95.050	0	95.050	724.513	6.931	731.444	57.961	554	58.516	672.929
21	2036	815.931	6.931	822.862	0	0	0	94.628	0	94.628	721.302	6.931	728.233	57.704	554	58.259	669.975
22	2037	812.315	6.931	819.246	0	0	0	94.209	0	94.209	718.106	6.931	725.037	57.448	554	58.003	667.034
23	2038	808.715	6.931	815.646	0	0	0	93.792	0	93.792	714.923	6.931	721.854	57.194	554	57.748	664.106
24	2039	805.131	6.931	812.062	0	0	0	93.376	0	93.376	711.755	6.931	718.686	56.940	554	57.495	661.191
25	2040	801.563	6.931	808.494	0	0	0	92.962	0	92.962	708.601	6.931	715.532	56.688	554	57.243	658.289

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Year		Reduction of total emissions (t CO2e)			Project Emissions (t CO2e)			Leak Emissions (15%) (t CO2e) Reduction of net emissions (t CO2e)			Reservation Discount (8%)			Carboncer		
t	year	Def.	You.	Total	Def.	You.	Total	Def.	You.	Total	Def.	You.	Total	Def.	You.	Total
26	2041	798.011	6.931	804.942	0	0	0	92.550	0	92.550	705.461	6.931	712.392	56.437	554	56.991
27	2042	794.474	6.931	801.405	0	0	0	92.140	0	92.140	702.334	6.931	709.265	56.187	554	56.741
28	2043	790.953	6.931	797.884	0	0	0	91.732	0	91.732	699.222	6.931	706.153	55.938	554	56.492
29	2044	787.448	6.931	794.379	0	0	0	91.325	0	91.325	696.123	6.931	703.054	55.690	554	56.244
30	2045	783.958	6.931	790.890	0	0	0	90.920	0	90.920	693.038	6.931	699.969	55.443	554	55.998
TOTAL VIEWED		24.210.053	207.933	24.417.986	0	0	0	2.807.788	0	2.807.788	21.402.265	207.933	21.610.198	1.712.181	16.635	1.728.816
TOTAL AC		16.211.554	138.622	16.350.176	0	0	0	1.880.153	0	1.880.153	14.331.401	138.622	14.470.023	1.146.512	11.090	1.157.602

Source: YAWI IIPANA REDD+ Group Project

4 Legal and documentary aspects

The YAAWI IIPANA REDD+ Grouped Project is developed within the framework of compliance with the laws, statutes and regulations that are governed both locally and nationally associated with environmental, REDD+ and climate change projects.

4.1 Legal requirements

4.1.1 Articulation with environmental policies

Below is a summary of compliance with the policies and regulations in relation to the YAAWI IIPANA REDD+ Grouped Project, which are described in depth in this section.

Table 49. Relationship between regulations and project

Law / Decree / Resolution	Type (constitutional, organic, statutory, resolution, decree, etc.)	Applicability	Justification
Law 21 of 1991	Constitutional Block	Total	Approval of ILO Convention 169 (Geneva – 1989). This convention applies to tribal peoples in independent (indigenous) countries and recognizes the right of these peoples to have their own institutions and ways of life, as well as to maintain their identities, languages and culture. . REDD+ projects take into account these provisions of the convention and protect the identity of these peoples, so we as developers Through the sale of bonds, we help many times to strengthen their own institutions and reinforce their culture generation after generation. At no time do we affect their worldview, but rather we seek to ensure that the project

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			develop in its territory with the full observance of their traditions because.
Law 164 of 1994	Constitutional Block	Total	The United Nations Framework Convention on Climate Change (UNFCCC), with the objective of achieving: “(...) the stabilization of greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference in the climate system. That level should be achieved within a sufficient time frame to allow ecosystems to adapt naturally to climate change, ensure that food production is not affected. threatened and allow economic development to continue in a sustainable manner.” Through REDD+ projects we contribute to the objective set out in this convention ratified by Colombia, since with the preservation and increase of forests we seek to retain more phases of the greenhouse effect, avoiding or slowing down the acceleration. tion of climate change.
Law 99 of 1993	Constitutional Block	Total	Through this law “(...) the Ministry of the Environment and Sustainable Development (MADS) is created, the Public Sector of the environment is reorganized and other provisions are issued” Likewise, it is worth noting that this Law brings with it general environmental principles that must govern the conduct of

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			all the associates and the State itself. Among the objectives of this institution is “(...) promoting a relationship of respect and harmony between man and nature (...)”. As can be seen in the essence of the REDD+ projects, all the actors that participate are aligned with the principles of the Law and the objectives of the MADS, seeking in turn the preservation and conservation of nature, as well as the use of natural resources in a sustainable way.
Law 165 of 1994	Constitutional Block	Total	Through this Law, the Convention on Biological Diversity (CBD) is approved. The objectives of the CBD are “(...) conservation of biological diversity logic, the sustainable use of its components and the fair and equitable sharing of the benefits derived from the use of genetic resources, through, among other things, adequate access to these resources and appropriate transfer of relevant technologies, taking into account all rights to those resources and technologies, as well as through appropriate financing.” As we have mentioned previously, with the projects REDD+ we seek the preservation of the fauna and flora in our territory, since through

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			conservation of the ecosystem grams that biological diversity continues to be maintained in our national territory.
Law 1819 of 2016 (221, 222 and 223)	Ordinary Law	Total	Article 221 (modified by article 47 of Law 2277 of 2022) of the aforementioned Law creates the carbon tax, which is a tax that falls on the equivalent carbon content of all fossil fuels, including all derivatives. of oil, fossil gas and solids that are used for combustion. Likewise, articles 222 and 223 of the aforementioned Law legislate with respect to the aspects of this tax, such as the tax base and rate and the specific destination of this tax. This Law is of supreme importance in REDD+ projects, since thanks to the tax that exists, the companies that must pay this tax for their pollution decide in most cases to buy the carbon credits that are generated. of the project. This means that companies that must pay for the pollution they generate choose to buy carbon credits and thus not pay the tax. This type of market is of supreme importance for this type of projects, since thanks to it the market functions to a large extent.
Law 1931 of 2018 (30)	Ordinary Law	Total	This law aims to "(...) establish guidelines for the management of climate change in the

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			decisions of public and private persons, the concurrence of the Nation, Departments, Municipalities, Districts, Metropolitan Areas and Environmental Authorities mainly in actions to adapt to climate change, as well as in mitigation of greenhouse gases, with the objective of reducing the vulnerability of the population and the country's ecosystems to its effects and promoting the transition towards a competitive, sustainable economy and low-carbon development." The aforementioned is related It directly affects the carbon tax and REDD+ projects, since precisely the achievement of these projects is the mitigation of greenhouse gases through forests. Likewise, the actors who are involved in this type of projects do so in a manner consistent with the objective of this Law.
Law 1844 of 2017	Constitutional Block	Total	Through this Law "(...) the Paris Agreement is approved" and its objective is "(...) to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty." REDD+ projects fulfill the dual purpose of this Law, since - as we have previously noted - they contribute to the reduction of greenhouse gases.

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			greenhouse, which are the main generators of climate change. The second purpose is the eradication of poverty within the framework of environmental policies embedded in the Paris Agreement. Likewise, it is clear that with the sale of carbon credits we achieve that communities reduce their levels of poverty and have a better quality of life, in compliance with ILO Convention 169 (respect for their uses and customs).
Law 2111 of 2021	Ordinary Law	Partial	Law on Environmental Crimes, modifies the Penal Code and introduces new criminal types such as deforestation, ecocide, damage to natural resources, financing the illegal appropriation of vacant land, wildlife trafficking, etc. three others. As we have seen throughout the document, our State has sought through different actions legal instruments (laws, decrees, resolutions, etc.) the care of the environment to comply with the series of international treaties that are binding for Colombia. This criminal law seeks to punish individuals that in some way threaten the integrity of our water and natural resources. In contrast, the projects REDD+ seek the protection and development of nature,

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			being in turn oriented to the light fight against climate change through the mitigation of greenhouse gases.
Law 2169 of 2021	Ordinary Law	Total	Or also called Climate Action Law. This Law aims to “(...) establish minimum goals and measures to achieve carbon-neutrality, climate resilience and low-carbon development in the country in the short, medium and long term, in the framework of the international commitments assumed by the Republic of Colombia on the matter.” Likewise, this Law in its article 17 modifies Law 1753 of 2015, which in turn creates the National Registry for the Reduction of Emissions and Removal of Greenhouse Gases (RENARE). REDD+ projects are also registered in this Registry, which are regulated and administered by the MADS. This Law is relevant because in principle one of the instruments we have to achieve the objective of this Law are REDD+ projects, since they seek to achieve carbon neutrality. On the other hand, with the modification mentioned above, this type of projects are regulated and/or modified.
Law 1753 of 2015 (PND 2014-2018)	National Plan Development	Partial	Through this Law, the National Development Plan 2014 is issued. 2018 “All for a new country”. This Law helps the government in power for the period 2014-2018 to

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			develop their policies and objectives for their term of office (executive branch). As mentioned previously, article 175 of the aforementioned Law created the RENARE. However, through article 17 of Law 2169 of 2021, this regulation was modified. Its close relationship with REDD+ projects was already noted previously.
Decree Law 2811 of 1974	Decree Law – Creation of the National Resources Code Renewable Natural Resources and Environmental Protection	Total	Through this Decree, the National Code of Renewable Natural Resources and Environmental Protection is created. It is important to mention here the guiding principle of this Code: "The environment is a common patrimony. The State and individuals must participate in its preservation and management, which are of public utility and social interest." In all activities carried out in the territory of the REDD+ project, it is imperative that all actors comply with this Code. Although certain activities or methods carried out by the community to obtain its basic needs are not prohibited, as a general rule it is sought that the resources extracted are done in a sustainable way and in accordance with current regulations, since it is ne- it is necessary to remember that many members of the community live

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			of activities such as fishing or felling trees. Likewise, one of the pillars of REDD+ projects is the reforestation of the forest in degraded areas, which contributes to greater sustainability when taking advantage of the natural resources of the ecosystem where the project is developed.
Decree 1088 from 1993	Decree	Total	Through this Decree the possibility for indigenous authorities to create associations so that they represent the interests of the communities. These associations are public law entities of a special nature, with legal status, their own assets and administrative autonomy. We, being a private company, contract with the Indigenous Reserves through commercial agreements. Where the authority is recognized to the Legal Representative chosen in accordance with the uses and customs of the Resguardo and in accordance with an assembly from which the will emanates. of the entire community regarding the election of a representative feeling
Decree 1953 2014	Decree	Total	The purpose of this Decree is "(...) to create a special regime in order to put the Indigenous Territories into operation with respect to the administration of the systems of the indigenous peoples, in accordance with the provisions

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			established here, in the meantime the law referred to in article 329 of the Political Constitution is issued.” How can this be evidenced? Decree has a Transitional character tory, since the obligation is imposed on the legislator to pronounce on this aspect, however, there has not yet been any pronouncement by the legislative branch. Understanding and applying this Decree is of great importance for REDD+ project developers, since it allows us to know essential aspects (capacity, autonomy, self-determination, etc.) when signing an agreement or contract with them. . Failure to comply with these aspects can trigger a state of legal uncertainty, since the Parties linked by means of the contract may not be legally bound (capacity), generating situations that can put life itself. of the REDD+ project at risk.
Decree 298 of 2016	Decree	Total	“The organization and operation of the National Climate Change System (SIS-CLIMA) is established SISCLIMA is the set of state, private and non-profit entities, policies, standards, processes, resources, plans, strategies, instruments, mechanisms, as well as information related to climate change,

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			“which is applied in an organized manner to manage the country's greenhouse gas mitigation and adaptation to climate change.” The commission is made up of a series of state institutions that directly or indirectly regulate the carbon market and regulations for differentiated ethnic communities: MADS, Ministry of the Interior, Ministry of Finance, among others.
Decree 926 of 2017	Carbon tax and carbon markets	Total	The non-accrual of the carbon tax is regulated. Companies that certify their neutrality with respect to the GHG emissions they produce will not be liable for the carbon tax. In addition, this Decree explains the procedure that taxable persons must carry out. Likewise, we as developers or holders of the initiative of the GHG we are responsible for the formulation, implementation and monitoring of the initiative to reduce GHG emissions from the REDD+ project.
Decree 446 of 2020	Decree – Validating Organizations and Checkers OVV's	Total	“Rules are established applicable to verification bodies for emission reductions and removals of Greenhouse Gases (GHG)” Like the resolution that we will analyze in the next point, this Decree is important for the normal development and execution of REDD+ projects, since

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			Through it, the necessary guidance is provided to the OVVs for the validation and verification of these projects.
Resolution 1259 of 2015	Resolution issued by MADS	Total	“The content is established for the presentation of information on programs and projects known as REDD+ initiatives” This resolution is of supreme importance for the owners of the REDD+ initiative, since through it the steps to follow are taken with respect to the presentation of these projects. All our projects must be in accordance with these regulations. vity, since it is essential to exhaust the steps and requirements for the REDD+ project to materialize.
Resolution 1447 of 2018	Regulation of activities to reduce emissions from deforestation and degradation of forests	Total	“The monitoring, reporting and verification system of mitigation actions at the national level is regulated” The application of this resolution is for all persons (natural, legal, public and private) who want to register their GHG greenhouse gas mitigation initiative. This resolution applies directly to our projects and describes the characteristics that a REDD+ project must contain and how people must act in the monitoring, reporting and verification process.

Source. Grouped Project FAST IIPANA REDD+

4.1.2 Compatibility with planning instruments

Within the documents that support the territorial planning and development process, the departmental development plan dictates the guidelines for the exercise of government by the elected mayor, based on the current conditions of the territories and especially their needs. Additionally, there are planning instruments formulated by the reservation, which consist of long-term planning documents that express the vision of the territory of the indigenous peoples and that guide their actions to meet the particular needs they present.

Based on the available planning instruments, the following are identified:

Guaviare²¹ Departmental Development Plan

The document recognizes that the territory has been the scene of conflict, which is why, in the first instance, it includes the policies and guidelines that have been established by the central government to resolve the effects of the conflict.

Starting from these policies and their considerations, it establishes the approaches of the plan: 1) Human rights approach, 2) Differential approach and affirmative actions, 3) Life course approach, 4) Capabilities approach, 5) Rural development with focus territorial, 6) Reconciliation approach, 7) Reincorporation approach, 8) Inclusion approach, 9) Gender approach. Additionally, it is worth highlighting that the plan is articulated with both the national development plan and the Sustainable Development Goals.

This is how the plan establishes the strategic axes and the programs that will develop them, then related to the lines of action of the REDD+ project.

Table 50. Conformity of Guaviare Departmental Development Plan with the Clustered Project YAAWI IIPANA REDD+

Strategic axis	Program	Project action line REDD+22
Sustainable productive and economic consolidation	Peasant Family Agriculture	1.7.2.2.2 Production, supply and marketing in traditional Conucos and Chagras of the communities 1.7.2.2.4 Strengthening agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes 1.7.2.2.5 Sustainable use, transformation and marketing of products

²¹ Annex 14. Guaviare Departmental Development Plan 2020-2023

²² Annex 16. Technologies, products and services of the PMCC YAAWI IIPANA REDD+

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		timber and non-timber of importance to communities 1.7.2.2.6 Systems diversification productive issues for self-supply and marketing of non-conventional agroforestry products the region
	Solutions for productive and competitive development	1.7.2.2.3 Strengthening the livestock – productive sector: Use of species minors 1.7.2.2.4 Strengthening agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes 1.7.2.2.5 Sustainable use, transformation and marketing of timber and non-timber products of importance to communities 1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives 1.7.2.2.11 Sustainable forestry use
	Business associativity for productivity with equity	1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
	Territorial solutions for rural areas	1.7.2.2.7 Acquisition, improvement and provision of community facilities and housing in indigenous reservations 1.7.2.2.8 River mobility improvement program and terrestrial

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		1.7.2.2.9 Connectivity and communications program
	Solutions for economic reactivation	1.7.2.2.3 Strengthening livestock – productive sector: Species exploitation minors 1.7.2.2.4 Strengthening agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes 1.7.2.2.5 Sustainable use, transformation and marketing of timber and non-timber products of importance to communities 1.7.2.2.6 Diversification of productive systems for self-sufficiency and marketing of non-conventional agroforestry products the region 1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
Infrastructure modernization ture and equipment for competitiveness	Competitiveness, sustainability and innovation with the ways of Guaviare	1.7.2.2.8 River mobility improvement program and terrestrial
	Sustainable energy solutions	1.7.2.2.7 Acquisition, improvement and provision of community facilities and housing in indigenous reservations
	Solutions in institutional and collective use infrastructure for social well-being	1.7.2.2.7 Acquisition, improvement and provision of community facilities and housing in indigenous reservations
Equity and quality of life	Equitable solutions in quality, coverage and	1.7.2.1.2 Strengthening education

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	strengthening education initial, preschool, basic and middle school	
	Solutions for the promotion of culture and arts for good living	1.7.2.1.1 Institutional and governance strengthening 1.8.2.2.1 Program for the empowerment of indigenous women
	Sports and recreation with social equity	1.7.2.1.1 Institutional and governance strengthening 1.7.2.1.2 Strengthening education
	Health solutions for all	1.7.2.1.3 Health care program
	Social inclusion with equity	1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
	Strengthening families with equity	1.7.2.2.1 Program for the empowerment of indigenous women
	Guaviare guarantor of the rights of children and adolescents hundreds	1.7.2.1.2 Strengthening education 1.7.2.1.3 Health care program 1.7.2.2.1 Program for the empowerment of indigenous women
	Solutions in prevention, care, assistance and comprehensive reparation to the victim population of the department of Guaviare	1.7.2.1.1 Institutional and governance strengthening 1.7.2.1.3 Health care program
	Ethical inclusion with equity	1.7.2.1.1 Institutional and governance strengthening

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	Housing solutions with equity, healthy and environmentally friendly	1.8.2.2.7 Acquisition, improvement and provision of community facilities and housing in indigenous reservations
Institutional governance	Strengthening the exercise of community organizations and citizen participation	1.7.2.1.1 Institutional strengthening tutional and governance
	ICT and information systems at your service	1.7.2.2.9 Connectivity and communications program
	Financial solutions for social investment with equity in the department	1.7.2.1.1 Institutional strengthening tutional and governance
	Solutions for the generation and strengthening of institutional capacities	1.7.2.1.1 Institutional strengthening tutional and governance
	Security, public order and citizen coexistence for the consolidation of peace	1.7.2.1.1 Institutional strengthening tutional and governance
	National and territorial public policies for equity	1.7.2.1.1 Institutional and governance strengthening
	Strengthening public management and transparency	1.7.2.1.1 Institutional strengthening tutional and governance
	Guarantee in the protection and promotion of human rights	1.7.2.1.1 Institutional and governance strengthening
	Solutions for the management of sustainable comprehensive rural development	1.7.2.1.1 Institutional strengthening tutional and governance 1.7.2.2.3 Strengthening livestock – productive sector: Species exploitation minors 1.7.2.2.4 Strengthening the agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes 1.7.2.2.5 Sustainable use, transformation and marketing of timber and non-timber products

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		of importance to communities 1.7.2.2.6 Diversification of productive systems for self-sufficiency and marketing of non-conventional agroforestry products in the region 1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
Conservation, recovery and efficient management of natural resources	Forests – protected areas – areas of environmental importance: biodiversity and ecosystem services for life	1.7.2.1.4 Participatory reforestation of degraded ecosystems 1.7.2.1.5 Deforestation and degradation monitoring and control program
	Towards an orderly, sustainable and equitable Guaviare	1.7.2.1.1 Institutional and governance strengthening 1.7.2.2.3 Strengthening the livestock – productive sector: Use of species minors 1.7.2.2.4 Strengthening the agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes 1.7.2.2.5 Sustainable use, transformation and marketing of timber and non-timber products of importance to communities 1.7.2.2.6 Diversification of productive systems for self-sufficiency and marketing of non-conventional agroforestry products in the region

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		1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
	Resilient and safe territory	1.7.2.1.4 Participatory reforestation of degraded ecosystems 1.7.2.1.5 Deforestation and degradation monitoring and control program
	Sustainable tourism "Opportunity and Solutions"	1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
	Solutions with equity in drinking water and basic sanitation for the countryside and the city	1.7.2.2.7 Acquisition, improvement and provision of community facilities and housing in indigenous reservations

Source: (Guaviare Government, 2020) Adapted by YAAWI IIPANA REDD+ Group Project

Life Plan of the Old Morichal Reserve, Santa Rosa, Cocuy Hill, Santa Cruz, Canyon Danta and otros²³

The document recounts the constitution of the reservation, the history and formation of each of the communities. In this recognition of the communities, a

Analysis of the socioeconomic situation of each one, highlights the problems that must be solved, among these the following stand out:

- Difficulties in providing health services
- Difficulties in providing quality educational services
- Low access to home public services
- Difficulties in mobility issues
- Low quality of housing

Based on the analysis carried out in the document, specific actions were proposed in four thematic axes, which are then related to the lines of action of the REDD+ project.

²³ Anexo 17. Plan de vida RI Morichal

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Table 51. Articulation of thematic axes of RI Morichal life plan with the YAAWI IIPANA REDD+ Group Project

Thematic axes and objectives	REDD+ project lines of action
Territory and environment: Protect and conserve the natural resources of the reservation	1.7.2.1.1 Institutional and governance strengthening 1.7.2.1.4 Participatory reforestation of degraded ecosystems 1.7.2.1.5 Monitoring and control program for deforestation and forest degradation
Culture and identity: Recover and preserve the cultural traditions of the Puinave and Corripaco	1.7.2.1.1 Institutional and governance strengthening 1.7.2.1.2 Strengthening education 1.7.2.1.3 Health care program
Governance: Strengthen the governance of the Puinaves and Curripaco indigenous peoples of the Guard	1.7.2.1.1 Institutional and governance strengthening 1.8.2.2.1 Program for the empowerment of indigenous women
Quality of life: Improve the quality of life of the communities of the Mo-richal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others through the improvement of economic opportunities and health, education, communication, housing and basic sanitation services	1.7.2.1.2 Strengthening education 1.7.2.1.3 Health care program 1.7.2.2.2 Production, supply and marketing in traditional Conucos and Chagras of the communities 1.7.2.2.3 Strengthening the livestock – productive sector: Use of minor species 1.7.2.2.4 Strengthening the agricultural – productive sector: tubers, fruit trees, vegetables, cereals and legumes 1.7.2.2.5 Sustainable use, transformation and marketing of timber and non-timber products of importance to communities 1.7.2.2.6 Diversification of productive systems for self-sufficiency and commercialization of non-conventional agroforestry products in the region 1.7.2.2.7 Acquisition, improvement and provision of community equipment and housing in indigenous reservations

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	1.7.2.2.8 River and land mobility improvement program
	1.7.2.2.9 Connectivity and communications program
	1.7.2.2.10 Strengthening community association, cooperation and entrepreneurship initiatives
	1.7.2.2.11 Sustainable forestry use

Source: (Ministry of Justice & UNODC, 2016) Adapted from Grouped Project YAAWI IIPANA REDD+

4.1.3 Harmony with protected areas

In accordance with Colombian regulation, the spatial coexistence between indigenous settlements and an area of special ecological protection is regulated by decree 1076 of 2015, which establishes that “The declaration of a national natural park is not ***incompatible with the constitution of an indigenous reserve***; Consequently, when for ecological and biogeographical reasons an area occupied by indigenous groups must be included, totally or partially, within the National Natural Park System, the corresponding studies will be carried out jointly with the Colombian Institute of Rural Development. - INCODER-, in order to establish a special regime for the benefit of the indigenous population in accordance with which the permanence of the community and its right to the economic use of renewable natural resources will be respected, observing technologies compatible with the objectives of the system indicated to the respective area.”

In this order of ideas, the consolidation of an indigenous reservation within a protected area must be aligned with the objectives of the protected area system without excluding the guarantee of the differentiated rights of the ethnic community, among which is the right to territory and collective property, including the economic use of its territory that is compatible with the environmental restrictions of the area.

Due to the above, it is necessary to highlight the objectives of the formation of a National Natural Park (PNN), they are related to (i) reserving outstanding and representative areas of the natural heritage that allow the conservation and protection of the fauna, flora contained in the respective primary ecosystems, as well as their perpetuation; (ii) reserve and conserve areas that have outstanding landscape values; (iii) perpetuate in a natural state representative samples of biotic communities, biogeographic units and physiographic regions; (iv) maintain biological diversity and ecological balance through the conservation and protection of natural areas; (v) establish and protect areas for biological, geological, historical or cultural studies, reconnaissance and research; among others.

Reason why, the objectives and direct actions of REDD+ projects such as the conservation of forest cover of ecosystems, reforestation processes in degraded areas, preservation of ecosystem services, and indirect actions such as the conservation of Local biodiversity values, promotion of knowledge of natural resources within communities and strengthening of sustainable use are compatible with the uses permitted by the PNN figure.

In the context of the YAAWI IIPANA REDD+ Group Project, 62.07% is allocated to the ²⁴ of the ad-proposing indigenous reserve; Morichal Viejo indigenous reserve, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, are transferred with areas belonging to the National Single Register of Protected Areas – RUNAP specifically the Nukak National Natural Reserve, new area incorporated in the current process of validation verification, where six of the eleven communities assigned to the reserve are located in the backward areas, represented by 327 community members, as described in the following table (Ministry of Justice & UNODC, 2016).

Table 52. Communities settled in an overlapping area of the Nukak National Natural Reserve

Zone	Community Not Person	
Overlapping with the Nukak National Natural Reserve	Pupuña Port	39
	Puerto Cumare	41
	Cerro Cucuy	90
	A guard	32
	The Backwater	43
	Long Flow	82
Guard	Puerto Ceiba	43
	Morichal Viejo	333
	Santa Rosa	93
	High Ravine	26
	Santa Cruz	79
Total		901

²⁴ This figure has been calculated using the cartographic information of the project. Since in the award resolution it is established that the overlap corresponds to 50% and in the life plan of the reservation to 52%. For this reason, the decision was made to make the geospatial calculation of the correlation of the areas.

Source: (Ministry of Justice & UNODC, 2016) Adapted from Grouped Project YAAWI IIPANA REDD+

In coherence with what is established by law, described in previous paragraphs, the Ministry of Environment, at the request of INCORA, through Official Letter No. 41062022E2004530, issues the concept of favorability regarding the constitution of the Morichal Indigenous Reservation Viejo, Santa Rosa, Cerro Cucuy, Santa Cruz, Caño Danta and others, with respect to the transfer generated with the Nukak National Nature Reserve, being this (Annex 27), a legal support of the administrative procedure advanced in time for the award of the titularity of the areas to the ethnic community, today areas of the YAAWI IIPANA Group Project REDD+.

On the other hand, considering that the YAAWI IIPANA REDD+ Group Project seeks to conserve the forest covers of the ecosystems in which they have an impact, promote activities for the recovery and rehabilitation of plant covers and propose activities in accordance with the uses of research and education, once they establish it in the lines of action. It would be possible to affirm that the activities developed are compatible with the uses permitted in the Nukak National Natural Reserve, highlighting that, although it does not have a management or planning instrument such as a Management Plan or Action Plan, the objectives and permitted uses adhere to the legislation of SINAP areas, with which

is in harmony.

Finally, the ownership of the carbon credits issued within the framework of the YAAWI IIPANA REDD+ Grouped Project corresponds to the owner of the property in which the forestry individuals that provide the ecosystem service of carbon capture and sequestration are located. In that case, the Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta indigenous reservation and others, taking into consideration the rights to territory and collective property and the economic use of natural resources in said areas.

4.2 Link with NDCs

The project will comply with the NDC established by the competent authority at the time it is regulated.

4.3 PMCC documentation

4.3.1 Data Quality

The procedures for information management and documentary control are established in the following sections. Regarding the data necessary for the quantification of the project's GHG emissions reductions, it is confirmed that the project will follow the guidelines of the resolution 1447 of 2018, or the one that modifies or updates it and will be governed by the

most updated reference levels for Colombia and by the forest/non-forest maps, generated by the institute that has this responsibility, in this case the IDEAM.

4.3.2 GHG-PRR Documentation

In the implementation phase of the YAAWI IIPANA REDD+ Grouped Project, each of the activities to be executed, within the framework of the transversal lines of action and the lines of action defined by the community, will contribute to the construction of the data that will be compiled, monitored²⁵ and presented in subsequent verification processes. Its appropriate management and consolidation will guarantee the availability of economic resources and ensure the sustainability of the project in the long term.

Therefore, in harmony with the principles and guidelines for Monitoring and quantification of results in Section 13 of the CERCARBONO V 1.3 methodology. and the Quality Measurement and Control System (QA/QC) recommended by the UNFCCC (transparency, relevance, reliability, continuity, accuracy, comparability and consistency); This chapter discloses the inputs and procedures to guarantee robust and quality information management.

4.3.2.1 Information management related to USCUS activities

Following the guidelines of the Quality Measurements and Control System (QA/QC) recommended by the UNFCCC, the database that was built for the YAAWI IIPANA REDD+ Grouped Project is presented in detail in Annex 26a and 26b, with the objective of monitoring the areas of forestry activities that will be assigned and/or commercialized, in this way it will be ensured to have a list of the processes and procedures that are carried out in the implementation of the project and not reach overestimation scenarios of the reductions generated by the project's mitigation actions.

Broadly speaking, this database seeks to differentiate the project areas that potentially have different Land Use, Land Use Changes and Forestry activities, USCUS, based on what areas are considered eligible to enter the database, those in which mitigation actions are carried out in the USCUS sector categorized into three broad lines:

- **Restoration of forests and other degraded natural areas:** ecological restoration, rehabilitation, recovery or reclamation, forest enclosure, enrichment, living fences, barriers on forest edges, protective strips of bodies of water, expansion of areas and supplementation .
- **Forest Systems:** Plantations, agroforestry systems, silvopastoral systems, windbreaks, living fences, corridors, dispersed trees, among others.

²⁵ Regarding the monitoring of the execution of the projects, it is important to clarify that this is a right that BIOFIX reserves, without prejudice to the supervisions and audits carried out within the framework of the contracts concluded by the collective territories, as well as the monitoring and control that the State control agencies must carry out.

• **REDD+ Activities:** Deforestation and Degradation²⁶

Likewise, the database allows establishing the relationship of the areas with cartographic, silvicultural and contextual information that allows establishing the environmental and social co-benefits of each one, as well as the results of the quantification of GHG emissions reductions. Allowing to have an information management mechanism focused on the project areas differentiated according to their specialty and spatiality.

Its feeding will be carried out permanently, to the extent that the actions contemplated in the Monitoring Plan are implemented, simultaneously the documentary evidence base will be consolidated and will be presented in future verification processes.

4.3.3 Information management related to GHG reductions

Based on the guidelines of the Quality Measurement and Control System (QA/QC) recommended by the UNFCCC, the structure of the information quality management procedure related to GHG reductions is presented below, which It includes all the actions, actors and documentary supports required to guarantee quality during the implementation phase of the REDD+ Project.

To guarantee the management of information within the different phases of the YAAWI IIPANA REDD+ Grouped Project, in its documentary component, the following guidelines are established.

In order to standardize the documentary requirements requested from the community council or provide support in the achievement management, the formal request for information in accordance with the phase is shared with the legal representative of the community via email. where the project is located.

The digital channels designated for receiving documentation are differentiated as follows:

Table 53. Digital Communication Channels

Documentation by project phase	Channel Enabled	Responsible	Observations
Preliminary Phase	Email Territorial coordinator	Direction of Projects BIOFIX CONSUL- TORIA	Provision Documentation Check List

²⁶ The other 3 recognized REDD+ activities are not included, given the lack of information regarding the lack of methodology for calculating the emissions reductions generated.

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Formulation Phase	Email Territorial coordinator	Direction of Projects BIOFIX CONSUL- TORIA	
Validation Phases / Check / Certification	Email Territorial coordinator	Direction of BIOFIX projects CONSULTANCY	In accordance with the requirements sent by entities certifiers
Implementation Phase: Documentation required for the constitution of the trust	Email administracion@biofix.com.co	Address Financial BIOFIX CONSUL- TORIA	Provision Checklist
Implementation Phase: • Receiving projects of investment	Email correspondencia@biofix.com.co	Legal Address and Projects BIOFIX CONSULTANCY	Upon submission of Investment Project Manual
All phases: Reception of Petitions, Complaints, Claims and Requests	Email correspondencia@biofix.com.co	Legal Address BIOFIX CONSULTANCY	The respective generation of filing and notification to the sender

Source: YAWI IIPANA REDD+ Group Project

NOTE. The email correspondencia@biofix.com.co was also centralized as the channel for the issuance of exit letters in response to the PQRS and the technical, financial and legal concepts issued by BIOFIX on the investment projects presented by the Indigenous Reservation. or community council.

Figure 41. Document check list for the preliminary and formulation phases

PROYECTOS DE CONSERVACIÓN REDD+
LISTADO DE DOCUMENTACIÓN PARA RESGUARDOS INDÍGENAS

La siguiente documentación debe recopilarse y entregarse por cada uno de los consejos comunitarios interesados en participar dentro del Proyecto REDD+, a los siguientes correos electrónicos: ortiz@biofix.com.co y jnavarro@biofix.com.co

FASE PRELIMINAR

No.	Descripción	SI	NO	N/A
1	Resolución de adjudicación de terrenos por parte del INCORA, INCODER o la Agencia Nacional de Tierras			
2	Constancia de registro del Resguardo Indígena ante la Dirección de Asuntos Indígenas, ROM y Minorías, del Ministerio del Interior			
3	Certificación de reconocimiento del Representante Legal (electo) del Resguardo Indígena, por parte de la Alcaldía Municipal respectiva			
4	Acta de posesión y Resolución de reconocimiento del Representante Legal (electo) del Resguardo Indígena, por parte de la Alcaldía Municipal respectiva			
5	Certificación de reconocimiento de la Junta Directiva (electa) del Resguardo Indígena por parte de la Alcaldía Municipal respectiva			
6	Acta de posesión y Resolución de reconocimiento de la Junta Directiva (electa) del Resguardo Indígena, por parte de la Alcaldía Municipal respectiva			
7	Acta de Asamblea General en la cual se dio la elección del Representante Legal del Resguardo y la Junta Directiva			
8	Cédula de ciudadanía del Representante Legal del Resguardo Indígena			
9	RUT del Resguardo Indígena			
10	RUT del Representante Legal del Resguardo Indígena (electo)			
11	Certificación de la cuenta bancaria del Resguardo Indígena (en caso de tenerlo)			
12	Certificación de la cuenta bancaria del Representante Legal (electo) del Resguardo Indígena (en caso de tenerlo)			
13	Demás documentación con la que cuente el Resguardo Indígena relacionada con la adjudicación de su territorio o reconocimiento por las autoridades locales, regionales o nacionales			

FASE DE FORMULACIÓN

No.	Descripción	SI	NO	N/A
1	Plan de vida del Resguardo Indígena (en caso de tenerlo)			
2	Logo del Resguardo Indígena (en caso de tenerlo)			
3	Último censo realizado del Resguardo Indígena (en caso de tenerlo)			
4	Certificado Censal emitido por la Alcaldía Municipal respectiva			

4	Estatutos del Resguardo Indígena (en caso de tenerlo)			
5	Demás documentos con los que cuente el Resguardo Indígena en el que se indique información de interés sobre su historia, comunidades, caracterización social, económica, cultural, productiva u otros			
6	Documentos con los que cuente el Resguardo Indígena que den cuenta de convenios o participación en Asociaciones, Comités o cualquier otro tipo de organización local o regional			
7	Soportes de Retroactividad: Para demostrar que el Resguardo Indígena ha desarrollado actividades previas en su territorio, se necesitan evidencias documentales y fotografías como Certificaciones, Constancias, Contratos e Informes de acciones adelantadas, en los últimos 5 años, con instituciones privadas, públicas, ONGs, entre otras, que describan: - La participación del Resguardo Indígena en programas de formación y/o capacitación en temas de fortalecimiento institucional, gobernanza, autoridades indígenas, escuelas de formación política, educación ambiental, entre otros. - La participación del Resguardo Indígena en programas ambientales, de salud, mejoramiento de vivienda y educación. - La participación en el desarrollo y formulación del plan de etnodesarrollo. - Contratos de compra de suministros, insumos, maquinaria y/o herramientas para la comunidad (segaros, pecuarios, forestales). - Investigaciones realizadas por autoridades ambientales, instituciones académicas o gubernamentales.			

En caso de tener inquietudes sobre la documentación solicitada, puede comunicarse con los correos electrónicos mencionados al inicio.

NOTA: La demás documentación relacionada con las fases de Acercamiento y Formulación de los proyectos será solicitada y recopilada por el Coordinador Social en los encuentros de socialización acordados con las comunidades. (Ver Tabla Final)

Source: YAWI IIPANA REDD+ Group Project

Additionally, through the Complementary Check List, it will be verified that there is the required documentation in the different stages of approach, contracting, socialization and lifting of the lines of action that will be collected by the Territorial Coordination and/or the officials of the development company in the different stages, which will be part of the community's comprehensive file within the documentary base of the Project Management.

Figure 42. Complementary documentary check list



PROYECTOS DE CONSERVACIÓN REDD+

LISTADO DE CHEQUEO COMPLEMENTARIO

Este listado comprende la documentación requerida en las diferentes etapas de acercamiento, contratación, socialización y levantamiento de líneas de acción que será recabado por la Coordinación Social y/o los participantes en las diferentes etapas, que harán parte del expediente integral de cada comunidad dentro de la base documental de la Dirección de Proyectos.

FASE DE FORMULACIÓN

No.	Descripción	SI	NO	N/A
1	Carta de Intención del CC / RI de llevar a cabo el Proyecto REDD			
2	Contrato de asociación entre BIOFIX / CC / RI / Enlace Territorial			
3	Acta de otorgamiento de facultades al Representante Legal del CC / RI para la firma de proyectos y convenios por parte de la Asamblea General o Junta Directiva			
4	Comunicado o Acta de solicitud de recursos para la logística de la(s) socialización(es)			
5	Solicitud de acompañamiento en la Asamblea General a la Oficina de Asuntos Indígenas o Étnicos de la respectiva Alcaldía			
6	Consentimiento Libre, Previo e Informado, con la totalidad de las firmas y fechado			
7	Acta de Asamblea General de socialización y aprobación del proyecto REDD+, fechada, con la totalidad de las firmas y listados de asistencia debidamente diligenciados y organizados			
8	Soportes del levantamiento de las líneas de acción en Asamblea General o reuniones por comunidades (Formato BIOFIX o documento oficial generado por el RI / CC firmado por su Representante Legal)			
9	Soportes audiovisuales (fotografías y grabaciones) del momento de aceptación del proyecto, de la realización de la Asamblea y el levantamiento de las líneas de acción.			
10	Informe de visita de campo presentado por Coordinador Social y/o participantes en el proceso de socialización			
11	Actas de las reuniones efectuadas con los representantes legales de los RI / CC complementarios al Proyecto, debidamente fechados, diligenciados y firmados. Responsabilidad de quien lidera el encuentro.			
12	Documentos de conocimiento del Enlace Territorial (Si Aplica): - Certificación de Existencia y Representación Legal (Persona Jurídica) - RUT Persona Jurídica o Persona Natural - Certificación bancaria de la Persona Jurídica o Persona Natural - Fotocopia del documento de identificación de la Persona Natural o el Representante Legal de la Personería Jurídica			

Source: YAWI IIPANA REDD+ Group Project

To feed the documentary bases of the Project, review, approval, classification and organization activities will be carried out.

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For its part, to guarantee the management of information within the implementation phase of the lines of action of the YAAWI IIPANA REDD+ Grouped Project in its documentary component, the following procedure is established:

Table 54. Procedure, documentation and responsible persons

PASSED	DOCUMENTATION INPUT	DOCUMENTATION OUTPUT	RESPONSIBLE DELIVERY	RESPONSIBLE- REVISION	RESPONSIBLE APPROVAL
Formulation of the investment re-dear	Monitoring plan REDD+ project	Community investment plan		BIOFIX	Community
Presentation of proposals based on Manual of Projects	Project manual • Terms of reference rence of the line action Investment plan	Structure General and Plan Project execution	Suppliers	Concept BIOFIX technician	Community / Trust
Technical evaluation unique of the proposals	• Proposals and attachments presented	• Technical concept on the viability of the proposals		BIOFIX o ter- cero BIOFIX o third	Community
Selection of proposers	• Proposals and attachments presented • Technical concept on the viability of the proposals	Proposal selected	Community	Community	Community
Signature of agreement nios or contracts	• Concept on the viability of the proposals	I agree on the signed contract	Community / Supplier	Trust	Community / Trust
Execution of agreed activities of or hired	I agree the contract signed	Periodic reports • Audit reports toria	Supplier	Community BIOFIX o ter- zero	Community BIOFIX

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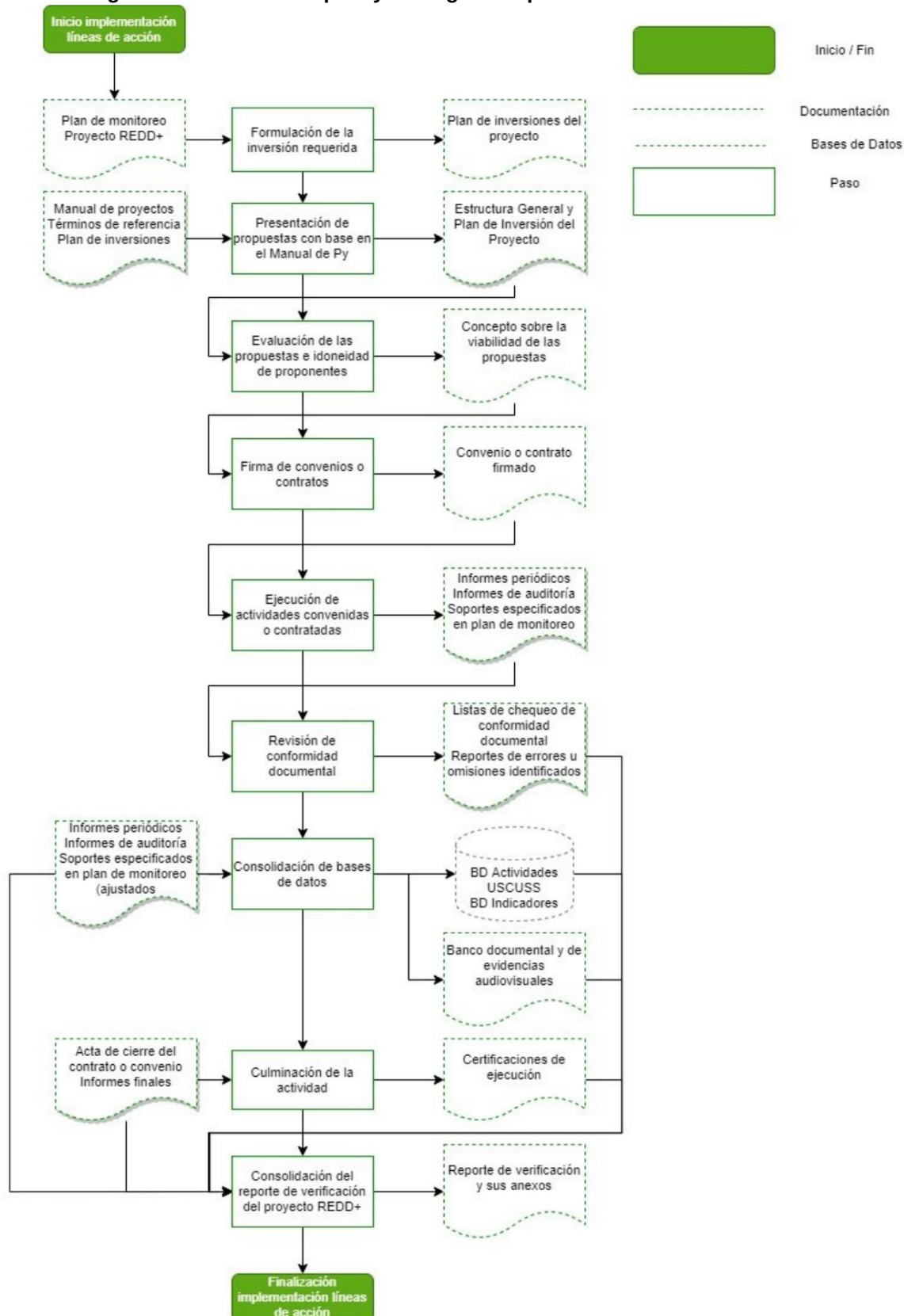
		Supports specified in monitoring plan			
Conformal review half document of	Periodic reports Audit reports- laugh Supports specified in the monitoring plan	Document compliance checklists mental Reports of errors or omissions identified fell	Supplier Ter- zero Community	BIOFIX	BIOFIX
Consolidation of databases (Verification input)	Adjusted periodic reporting Audit reports- ria Supports specified in adjusted monitoring plan	BD Activities US- CUSS DB Indicators Documentary and audio evidence bank visuals	BIOFIX	BIOFIX	BIOFIX
Culmination of the activity	Closing minutes of the contract or agreement Final reports	Certifications execution	Supplier	Community (reception to compliance)	Community BIOFIX or third party
Consolidation of REDD+ project verification report	Adjusted periodic reporting Audit reports- ria Supports specified in adjusted monitoring plan Closing minutes of the contract or agreement Final reports	Verification report and its annexes	BIOFIX	OVV	CCV

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	Certifications execution BD Activities US- CUSS DB Indicators Documentary and audio evidence bank visuals Document compliance checklists mental Report errors or omissions identified of the				
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Source: Source: YAAWI IIPANA REDD+ Group Project

Figure 43. Information quality management procedure flowchart



Source: Source: YAAWI IIPANA REDD+ Group Project

4.3.4 Document Control

In accordance with the established guidelines of the System of Quality Measurements and Control (QA/QC) recommended by the UNFCCC, the guidelines must be specified to guarantee adequate control and management of documentation.

So, things, BIOFIX fully and consistently applies the necessary controls to keep the information duly documented with its corresponding records, guaranteeing its accessibility and availability under the guidelines established in the association contracts.

Likewise, it verifies the relevance of the documentary records and the information recorded before their issuance, under the principle of continuous improvement. Develops document retention procedures, safeguarding, preserving or discarding documents in accordance with the company's own criteria and the applicable regulatory framework.

It is worth mentioning that determinants such as the identification and legibility of documents are the basis for corroborating the availability of these resources and ensuring appropriate management for the preservation of essential elements for the project.

Finally, to avoid document obsolescence, the storage and consultation of information will be systematized and technicalized. Without forgetting that it will strive to adequately handle the inconsistencies found by providing timely solutions.

Within document management and control, it is essential to establish a procedure that controls the following aspects:

- 1) Maintain the information properly documented with its corresponding records.
teeth*

As activities for information management, the way in which the documents generated during all phases of development of the REDD+ Project are classified and stored is standardized, as indicated in the following table, seeking to facilitate the organization and search of consolidated documents. in folders according to the different processes of the project, under criteria of unification in their names and chronological systematization.

In order to ensure availability for consultation, the documents are available in both physical and magnetic media and backup copies of the information are periodically made to ensure its conservation and reproducibility.

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Table 55. Documentation file structuring

Folder name		Subdivision name	Types of documents
Folder I	1. Legal	1. Own authorities	Related documents to elections of legal representatives and boards of directors.
		2. Self-government	Life plans or ethnodesa-rollo, censuses.
		3. Land tenure rras	Resolutions for the allocation of collective territories
		4. Participation	Minutes of socialization of the project and related information, contracts related to the project, materials presented at the socializations. Documents related to financial issues Documents from meetings related to implementation issues
Folder II	2. Formulation	1. PDD	The different versions of the PDD in Word format and PDF
		2. Attachments	Annexes of the PDD
Folder III	3. Carbon calculations		The different versions of the calculations carried out for the project
Folder IV	4. Cartography	1. Geodatabase	Geodatabase of the project, which contains the different These associated shapes
		2. Maps	Graphic outputs
Folder V	5. Validation verification *	1. Val Ver 1	Monitoring report, rounds of findings, validation and verification reports
Folder VI	6. Certification *	1. Certification 1	Certification statement tion, project sheets for certifiers
File VII	7. Marketing		Documents related to the commercialization of the bonds and buyers

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	File VIII	8. Implementation 1. Py Investment		Investment projects, technical concepts, final project reports
				them
	Folder IX 9. Photos and videos			Photos and videos taken in spaces related to the project
	Folder X 10. Audit**		1. Audit formats	
			2. PDD y RM	PDD versions and monitoring report that are evaluated in an audit process
			3. Attachments	Annexes to the PDD and/or RM
			4. Findings	Rounds of findings issued by the auditor and the certifying companies, responses to the rounds of findings
5. OVV reports and declarations			Validation and verification reports	

* These folders have several subfolders according to each of the validation and/or verification processes. that each project goes through.

**Folder where information is temporarily uploaded every time there is a validation and/or verification process to which the OVV is given access to guarantee the traceability and security of the documentation.

Source: YAWI IIPANA REDD+ Group Project

2) Verify the relevance of the documents before their issuance, ensuring the availability nibility and validity of resources

Project management, in charge of the technical aspects of the projects, generates the relevant templates and formats to collect and present clear and orderly information, ensuring that what is stated in said documents complies with the criteria defined for information management and recorded in the project PDD.

It should be noted that the information is shared with interested parties, such as communities, allies, suppliers, third-party approvers, regional autonomous corporations, among others, in accordance with the accessibility criteria defined in the association contracts and agreements signed. with the different actors. A record will be taken of these socialization activities to be annexed as support for the validity of the documents.

The commonly used documents that all communities need are socialized and shared in the scheduled meeting spaces and shared through the correspondence channel: correspondence@biofix.com.co, and through the people who perform the functions of territorial liaisons in the departments where the company's projects are located.

3). Establish documentary retention procedures that allow verification of the project

BIOFIX will structure the relevant archival procedures and instruments to guarantee the retention of documents and their availability for consultation. Thus, it will consolidate the document retention tables, define the criteria for their conservation and/or elimination, establish the guide for the treatment of access and reservation of information and publish information of general interest on its web portal.

To achieve the above, it will carry out the document grouping by documentary series according to the proposed organization chart, the phases of the projects and the functional profiles, it will assign the permanence times in the different types of archive and will guarantee its updating in accordance with the legal criteria. and current laws or management of the company.

In addition, this documentary retention must have record maintenance, to be carried out from the consolidation of the Indicator Database, where the supports that accompany the activities carried out, their documentary location and ma -audiovisual material.

4). Ensure the identification and legibility of documents

The identification of each document and the naming of the files is carried out in a standardized manner, ensuring ease of search and correct interpretation. Thus, on the one hand, the digital structure of the folders is taken as a reference and on the other, the specificity of the creation date, type of document and a brief description of its contents.

Now, the readability of the documents will be guaranteed both for physical resources and for those found on magnetic media, in the following way:

Physical documents

- Filing documents in folders with plastic hooks, avoiding the use of metal hooks that can wear and rust documents.
- Using plastic folders, fully labeled that allow quick consultation without handling them directly. Avoiding the use of cardboard folders that do not provide resistance and can facilitate document deterioration.
- Having a safe space, free of humidity, light and with sufficient capacity to store accumulated documentation.
- Guaranteeing the use of inks that do not smear and that the content of the documents is legible for those filled out manually.
- Storing photographs or maps in individual manila envelopes.
- Verifying that the shelves where the documents are located remain in place. good condition.

- Using dividers that classify and allow you to easily find the documents.
- Having digitized copies of the documents. • Protecting documents such as contracts and others that should not be perforated or scratched (SIGEPRE, 2016).

Digital Documents

- Ensuring the creation of backup copies of databases on hard drives virtual storage, minimum every 3 months.
- Updating and debugging files to avoid saturation of virtual spaces.
- Creating document metadata describing resources and allowing their recovery in case of loss.
- Using secure and antivirus software that guarantees the security of documents. them.
- Establishing adequate storage and handling conditions (Garazi, 2015).

5). *Avoid the use of obsolete documents and identify those that are kept for some reason*

With the checklists of the documentary compliance stage presented (Section Information Management Related to GHG Reductions), it will be guaranteed that the documentation is in the current formats and that feedback is provided to interested parties. As well as, the permanent updating of the information on the website and the record of the feedback sent, which will be the reference point for the required verifications and corrections.

There the document management procedure required by the company to fulfill each of the proposed activities is shown. Likewise relating those responsible for delivering, reviewing and approving each of the documentary resources.

The above, in order to establish the documentation really necessary within the project. In addition, making use of digital tools such as virtual storage.

Technicalizing and protecting the storage of resources that, with the criteria of the work team, will determine the permanence of the documents.

5 Consultation with interested parties

Starting from the considerations made in [section 1.1](#) . The indigenous reservation Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others are recognized as the proponent of the project, who under their role designate BIOFIX Consultoría SAS to manage the design of the project document. The latter aims to promote and strengthen sustainable development and social well-being.

The identification of actors in the different phases of formulation, validation/verification and marketing of the first batch of bonds of the YAAWI IIPANA REDD+ Grouped Project was worked on jointly with the proponent. These actors were classified

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according to its influence on the stage of the process in which the project is located. Among these actors, some were recognized, such as the Ministry of the Environment, Municipal Mayors' Offices, governorates, voluntary offsetters, taxpayers of the carbon tax, among others.

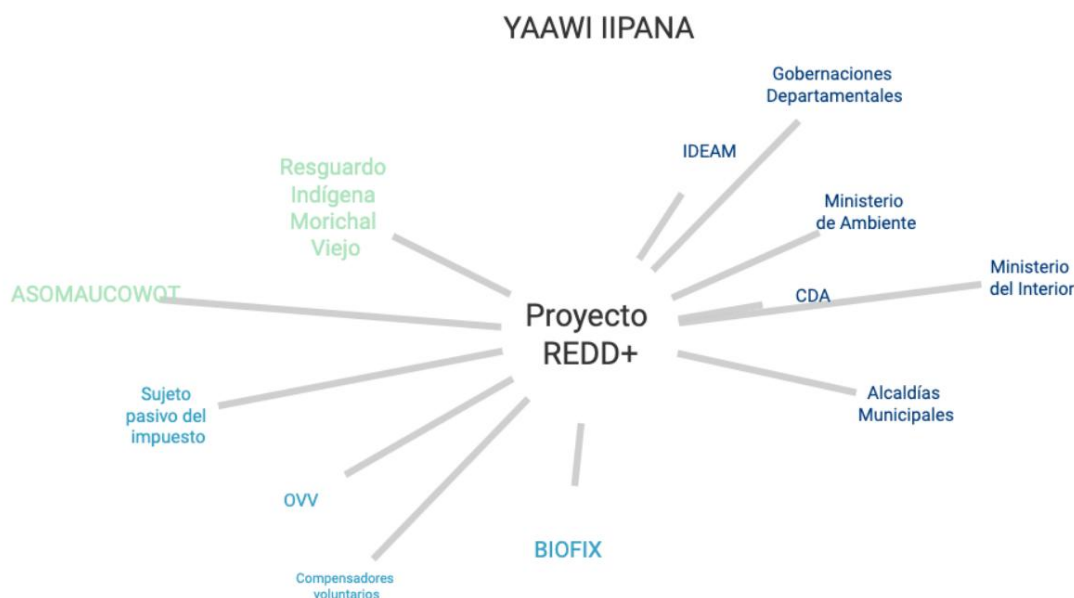
Among the national level actors, some were recognized such as the Ministry of Environment, Municipal Mayors, governorates, voluntary compensators, taxpayers of the carbon tax, among others.

Among the regional level actors identified, it is worth highlighting the environmental authority CDA, which has jurisdiction in the area in which the project is located, and provides environmental information on the departments of interest. Additionally, it is worth mentioning the governorates of the departments, which have supported the reservation in the execution of activities, as well as collecting information to monitor socio-economic conditions.

On the other hand, it is necessary to highlight the private sector in which the validating and verifying organizations are involved, who guarantee the adequate process of the REDD+ project, as well as other institutions and companies that play different roles in the formulation and implementation.

Based on this recognition, the following figure shows the actors interested in the activities of the YAAWI IIPANA REDD+ Grouped Project. In light green are the actors belonging to the group of ethnic communities, in dark blue are the Colombian government organizations that have supported and/or participated in REDD+ project activities and that through their policies and regulations have some indirect influence on the actions of the project, and in light blue the actors of the private sector group are shown.

Figure 44. Grouped Project Actors YAAWI IIPANA REDD+



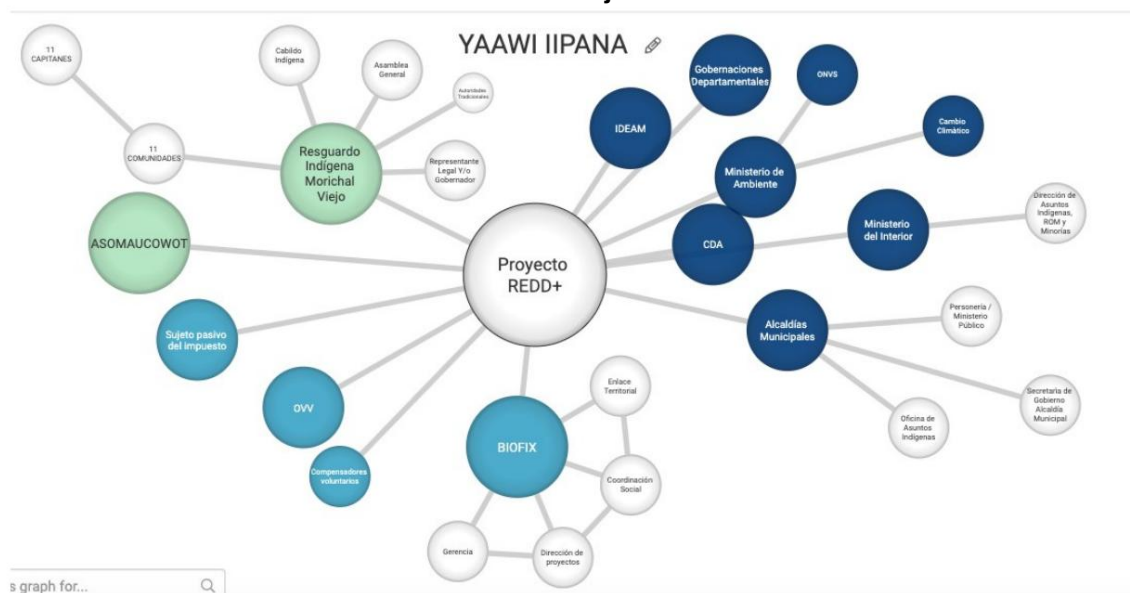
Source: YAWI IIPANA REDD+ Group Project

Now, it is worth highlighting the role of the indigenous affairs offices and government secretaries, as well as the municipal offices of the municipalities in which the reservation is located (El Retorno and Inírida). These entities were directly involved in the formulation phase, especially in those procedures for recognition of the legal representative of the indigenous reservation. This process is carried out through the general assemblies in which the legal representative is chosen, and is supported by the recognition made by the Ministry of the Interior of the election process.

It is important to note that an analysis of the other actors and interested parties that could potentially participate in any of the implementation and validation phases, periodic marketing verification, is under constant construction.

On the other hand, the following figure shows a graphic representation of the actors identified in the project and their relationship. Two levels are then identified: The largest circles are the key actors and the smallest circles are the primary actors. The two levels are separated in light blue that corresponds to instances of the private sector, the dark blues are the state entities and the light greens correspond to the ethnic groups.

Figure 45. Instances of relationships between Actors of the YAAWI IIPANA REDD+ Grouped Project



Source: YAWI IIPANA REDD+ Group Project

Regarding the project development process, the approach begins when the ethnic peoples inform BIOFIX of their autonomous and legitimate interest in finding a sustainable option that serves to generate economic income and continue with the conservation of their territory. and therefore the survival in it through the implementation of a REDD+ project. Since, the Indigenous Reservation is the one that enjoys collective ownership over

the land (See Annex 1), is the proponent-implementer of the project since it is the one who proposes the project idea and the owner of the territory in which its actions will be implemented.

The socialization assemblies in the territory aim to provide information to the communities about the purpose of the project, the phases, the support that BIOFIX will provide and achieve consensus on the benefit distribution mechanism of the REDD+ project. In these, the social coordination team of the BIOFIX project management is in charge, through workshops, activities and printed and audiovisual material, of informing and reaching consensus on the benefits, the rules of the game, lines of action, bus -involving the participation of the communities to develop the project jointly.

Thus, BIOFIX works jointly with the communities that make up the Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta indigenous reservation and others, in order to guarantee the right to active participation of the ethnic communities, which involves decision-making within the project design by them as holders of the conservation initiative, they have convened, planned and executed consultation events taking into account the intergenerational and gender approach with special attention to vulnerable people and/or marginalized. There are the following relevant documentary supports that account for the meetings held within the framework of the governance structures of the indigenous reservation:

- General Assembly meeting for socialization and free prior and informed consent. part of the REDD+ project with the RI Morichal. (Annex 6)
- Letter of express consent and approval of the REDD+ project, issued by the Old Morichal Indian Reserve, Santa Rosa, Cocuy Hill, Santa Cruz, Cano Danta and others (Annex 8)
- Workshop to define lines of action with the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others (Annex 7)

Through activities such as those mentioned above, relevant information has been provided to the community about the scope of the project and the expected results, which guarantees the legitimacy and full knowledge of the decisions made to carry out the formulation and implementation of the project. REDD+ project.

Through the mechanism for obtaining consent and approval of the REDD+ project within the General Assembly of the reservation, the participation of the communities that make up the Indigenous Reservation is guaranteed in all phases of the project, since these, who are as a proponent of the project and in such capacity both the members of the communities and their representatives actively participated during the development of the activities of signing, approval and socialization of the proposal and contractual terms celebrated with BIOFIX, as demonstrated in the attendance lists of meetings and minutes of assemblies attached to the project (Annex 6). This process corresponds

to what is established by Law 21 of 1991 through which Convention number 169 of the ILO, Geneva 1989, is approved.

The attached documents, such as the Letter of express consent and approval of the REDD+ project (Annex 8); As well as the other evidence that supports the PDD, they reveal the sufficient exchange of information in accordance with the methodology, standards and procedures to be applied in the formulation stage of the REDD+ project.

The above information demonstrates the participation of the actors in the General Assembly which, according to article 4 of Decree 1745 of 1995 compiled in Decree 1066 of 2015, is the highest authority of the Indigenous Reservations and is made up of the people recognized by it, in accordance with its own system of law and registered in the internal census. Consequently, the legitimate representatives of the communities had the necessary leadership to socialize the information related to the REDD+ project with the other members of their social group or institution, as well as the ability to voice and vote in decision-making.

Likewise, the Legal Representative and other authorities of the Indigenous Reservation have the legal powers contained in the applicable regulations, for the representativeness of the members of the communities and the management of matters related to the REDD+ project.

On the other hand, BIOFIX, as the structurer of the REDD+ project, has channels enabled for the permanent reception of requests, complaints, claims and requests (PQRS), among which are those described in section 5.2 of this document, in addition. Finally, it is relevant to mention as a summary the communication channels that have been established to date:

- Link to send messages

Through the website <https://www.biofix.co/contactanos>, The representatives of the reservations or natural persons of the community may send their requests, complaints, claims and/or requests in relation to the project to obtain a timely response. This link sends requests to the Correspondence area, in charge of issuing official information related to the project.

- Email provision for requests

The communities will have a permanent consultation channel to make their requests and receive a timely response. Via email: correspondencia@biofix.com.co They will be able to have direct contact with the company, ask their questions and/or requirements.

All the mechanisms and channels announced above will guarantee fluid communication between the structurer and the communities as proponents of the project. (See section 4.2)

Although the project has been socialized and agreed upon directly with the communities that make up the Indigenous Reservation through legitimately empowered bodies and representatives, it is worth clarifying that this project does not exhaust the aforementioned process of prior consultation *stricto sensu*.

Analysis of the UNFCCC REDD+ Safeguard has shown that the two essential thematic elements of 'transparent and effective governance structures' are accountability and access to justice.

Taking into account that in Colombia, those responsible for the different issues relevant to REDD+ within the national and regional government have jurisdiction in the definition of both the Strategic Environmental and Social Assessment (SESA) and the National Assessment System. Safeguards (SNS) the Ministry of Environment and Sustainable Development and the Ministry of the Interior, with the support of the Ombudsman's Office, has been working on the issue of consultation and free prior and informed consent, and defining roles and procedures for the reception complaints, dispute resolution and legal support in case of fraud or violation of law.

The SNS allows Colombia to define how safeguards should be addressed in a coherent manner, and ensure that all REDD+ activities and measures within a country are covered by the safeguards policies that are applicable to them in all areas, regardless of the source of financing or initiative. The SNS will have to substantively define the safeguards that will have to be implemented in the country; the measures that support its effective implementation; and the aspects of the Compliance System that allow transparent monitoring and reporting; address controversies; and addresses any failure to implement the requirements established under the safeguards.

In this sense, BIOFIX currently addresses complaints, claims, and controversies through the different communication mechanisms mentioned above. Additionally, it is worth highlighting that in order to support the agreements reached and materialize the commitments acquired by the communities through of its authorities, temporary association contracts²⁷ were concluded involving the participants of the REDD+ project, that is, BIOFIX Consultoría SAS and the Morichal Viejo Indigenous Reserve, Santa Rosa, Cerro Co-cuy, Santa Cruz, Caño Danta and others

In that contractual instrument it was indicated that the contract would be governed by Commercial and Civil legislation and the special regime of collective communities in the exercise of their rights as collectively owned entities, mainly, according to the provisions of Law 21 of 1991, Law 160 of 1994, Decree 1088 of 1993, Decree 1953 of 2014 and other applicable rules and jurisprudence, including special regulation for the procedures, activities, projects and deliverables related to the project.

²⁷ The contracts are considered a business secret of this company and are subject to the confidentiality regime.

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At the same time, it was established that differences, conflicts or controversies in relation to the formulation, celebration, validity, execution, interpretation, termination and/or liquidation of the contract will be resolved by mutual agreement between the parties, paying attention to the mechanisms of conflict resolution before the Ministry of the Interior or ordinary justice.

Finally, differences that cannot be resolved through mediation will ultimately be resolved before Ordinary Justice.

6 Safeguards

6.1 Articulation with the Socio-environmental safeguards of Cancún

6.1.1 Context of compliance with social and environmental safeguards

The principles and procedures that guide member countries in the implementation of social and environmental safeguards arise from decisions made at the conferences of the parties to the United Nations Framework Convention on Climate Change (UNFCCC). Specifically, decision 1CP/16 established measures to reduce emissions associated with deforestation and forest degradation, conservation and increase of forest carbon reserves, better known as REDD+, and the Cancún safeguards were established, namely:

- 1) Actions complementary or consistent with the objectives of national forestry programs and other relevant international conventions and agreements;
- 2) Transparent and effective national forest governance structures, taking into account national sovereignty and legislation take into account;
- 3) Respect for the knowledge and rights of indigenous peoples and members of local communities, taking into account relevant international obligations, national laws and the United Nations Declaration on the Rights of Indigenous Peoples .
- 4) Full and effective participation of stakeholders, in particular indigenous peoples and local communities;
- 5) Actions consistent with the conservation of natural forests and biological diversity, ensuring that actions mentioned in paragraph 70 of Decision 1/CP 16 are not used for the conversion of natural forests, but rather to promote the protection and conservation of natural forests and their ecosystem services, as well as to contribute to other social and environmental benefits;
- 6) Actions to avoid the risks of reversal of REDD+ results; and
- 7) Actions to reduce the displacement of carbon emissions to other areas.

These REDD+ Safeguards are considered a general framework of social, environmental and governance elements under which REDD+ activities must be implemented, seeking to minimize risks and increase the probability of achieving REDD+ benefits, as well as guarantee the protection of rights and compliance with the obligations of the actors involved in a REDD+ project.

Within the guidelines established by the UNFCCC, safeguards must be contemplated within a Safeguards Information System of each country, which in turn is part of the National REDD+ Strategy, for the implementation of said mechanism. nism. To comply with the guidelines on REDD+ Safeguards, Colombia has made progress in the preparation of two documents that provide guidelines for the national approach to safeguards for REDD+, the first titled "Structure of the National System of

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Safeguards: Colombia's provisions to address and respect social and environmental safeguards for REDD+” (Ca-macho & Guerrero, 2017), a document that presents the structure of the SNS that considers the national approach to safeguards and describes the following structural components: the interpretation of the Cancún Safeguards in accordance with the national context, the corresponding regulatory and institutional framework, the measures and instruments that promote the application and its respect and the compliance framework and a safeguards information system.

The second document is a primer for the national interpretation of socio-environmental safeguards for REDD+ prepared jointly between MADS, the UN-REDD Program and WWF Colombia (Camacho, Lara, & Guerrero, 2017). This describes the progress of the interpretation process of the seven safeguards established for REDD+ without much background because, as stated there, the process of interpretation and application of social and environmental safeguards in Colombia is still under construction.

The national interpretation component of safeguards; which to date consists of 15 elements of institutional, sociocultural and environmental nature. Below are each component and the elements that enable the fulfillment of social and environmental safeguards in the YAAWI IIPANA REDD+ cluster project:

Table 56. Classification of social and environmental safeguards for REDD+ in Colombia

Type	Safeguard	Cancun Safeguards Relationship
Institutional	A1. Correspondence with national legislation	Safeguard A: Complementarity or compatibility of the measures with the objectives of national forestry programs and international conventions and agreements on the subject
	B2. Transparency and access to information	Cancun Safeguard B: Transparency and effectiveness of national forest governance structures, taking into account national legislation and sovereignty
	B3. Accountability	
	B4. Recognition of the Es-Governance structures for forestal	
	B5. Capacity building	
Social and cultural	C6. Free, Prior and Informed Consent (FPIC)	Cancun Safeguard C: Respect for the knowledge and rights of indigenous peoples and members of local communities, taking into account relevant international obligations and national circumstances and legislation
	C7. Respect for Traditional Knowledge	
	C8. Profit distribution	
	C9. Territorial Rights	
	D10. Stake	Cancun Safeguard D: The flat and effective participation of relevant actors, particularly the people

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		Indigenous and local communities (in REDD+ policies and measures)
Environmental and territorial	E11. Conservation of Forests and their Biodiversity	Cancún Safeguard E: The compatibility of REDD+ measures with the conservation of natural forests and biological diversity
	E12. Provision of Environmental Goods and Services	
	F13. Environmental Planning and Territorial	Cancún Safeguard F: THE adoption of measures to address reversal risks
	F14. Sector Planning	
	G15. Forest Control and Surveillance to avoid the Displacement of emissions	Cancún Safeguard G: The adoption of measures to reduce the displacement of emissions.

Source: YAWI IIPANA REDD+ Group Project

Below, each component and the elements that allow compliance with social and environmental safeguards in the YAAWI IIPANA REDD+ grouped project are indicated.

6.1.2 Institutional Safeguards

6.1.2.1 Safeguard A: Complementarity or compatibility of the measures with the objectives of national forestry programs and international conventions and agreements on the matter.

Safeguard A1: Correspondence with international agreements signed by Colombia on forests, biodiversity and climate change.

National Interpretation: The EICDGB and the programs and projects are developed within the framework of the National Forestry Development Plan, the international conventions and agreements signed by Colombia in matters of: Forests, Biodiversity and Climate Change, as well as the corresponding national policies. to these agreements.

In this sense, Biofix BIC, as a structuring company, will evaluate compliance with legal requirements every year, in relation to the following criteria:

- Identify legal and environmental requirements.
- Adjustment of the reference level for the Amazon region according to the latest update of the IDEAM report and based on the most updated NREF (2019).
- Review compliance with the new Basic Territorial Planning Plans of the municipality of El Retorno.
- Identify socio-environmental safeguards and determine if they are met.

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Based on this information, the evaluation of the legal requirements and their evaluation periodicity are structured, which are summarized below in table 57:

Table 57. Evaluation of legal requirements

Request	Evaluation procedure tion	In charge	Periodicity
A) Identification of compliance with legal and environmental requirements (including safeguards).	Technical-legal evaluation to verify compliance with legal requirements and socio-environmental safeguards under the regulatory framework that guarantees them.	Legal Management and Project Management Biofix BIC	Semiannual
B) Adjust the reference level in accordance with the latest IDEAM report so above the reference level for the department of Guaviare of conformity with the provisions of Resolution 1447 of 2018 or the standard that modifies, adds or replaces it.	Reference level proposed by IDEAM.	Direction of Biofix projects BIC	Yearly
C) Review compliance with the new Schemes and Management plans Territorial and Municipal Development Plans for the municipality of El Retorno.	There will be a periodic review of the coupling and compliance of the project actions, with those contemplated in the Plans and Most current Municipal Development for the municipality of El Return	Legal Management and Project Management Biofix BIC	Yearly
D) Review any substantive modifications that may arise in the collective territories (additions or subtractions of territories), and/or changes of legal representative in the territory	Documentary review of the administrative acts of existence and legal representation of the indigenous reservation make up the project.	Legal Address dica de Biofix BIC	Yearly
E) Holding informative assemblies in the communities information about the state of project, application of participation mechanisms within the institutions governance of indigenous reservations.	Reception of concerns, proposals and possible modifications according to the requests tutes of the communities to through their traditional authorities, regarding the minutes and commitments endorsed, holding workshops and participatory assemblies for this purpose.	Coordination territorial Biofix and BIC project management	Annual (depending on community requests)

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F) Review of regulatory and policy instruments on natural forests and biodiversity conservation.	Review of the aforementioned instruments to review the compatibility of the measures, conservation of forests and biodiversity, ecosystem services and multiple benefits.	Biofix legal and project management BIC	Annually and when new you instrument them.
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Source: YAWI IIPANA REDD+ Group Project

6.1.3 Safeguard B: Transparency and effectiveness of national forest governance structures, legislation and national sovereignty.

Safeguard B2: Transparency and access to information.

National Interpretation: The interested parties have transparent, accessible and timely information related to REDD+ actions on the platforms or information media that are determined (within the framework of the EICDGB).

With the issuance of Resolution 1447, which creates the National Registry for the Reduction of Greenhouse Gas Emissions (RENARE), Biofix BIC registered the YAAWI IIPANA REDD+ Grouped Project. Taking this into account, Biofix BIC addresses the regulatory, institutional and compliance aspects related to information transparency and is guided by the advances of the Safeguards Information System and the Matching Mechanism component.

Additionally, Biofix BIC has implemented, in areas where communication differs from the Spanish language, the accompaniment of interpreters in their language, as well as appropriate material to facilitate communication processes. And it is with an information management procedure, described in [section 4.3](#) of this document.

Below are the regulatory aspects that are taken into account to comply with the information dissemination processes.

Table 58. Regulatory aspects consistent with information dissemination processes

Request	Evacuation procedure uation	In charge	Periodicity
Documentary review of internal governance issues of collective territories, statutes, life plan, internal regulations, forestry plans, among others.	Meetings with authority to define the call, the participants and the form of assembly for the FPIC.	Coordination territorial and legal direction of Biofix BIC	From the start date of the project

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Celebration of assemblies informative or assemblies extraordinary in-territories on the current status of the project.	Reception of concerns, complaints, claims or requests from communities in a face-to-face space.	Coordination Territorial and Legal Directorate of Biofix BIC	Annual (depending on requests) cities of the co-community)
Conducting workshops to strengthen REDD+ capacities and safeguards.	Reception of concerns, complaints, claims or requests from communities in person.	Coordination Territorial and Coordination of projects Biofix BIC	Prior to each Verification/ Validation or when the communities request.
Virtual tools communication (PQRS).	Operation throughout the life of the project for the reception of PQRS and its responses.	Correspondence Biofix BIC All areas of Biofix BIC	Every time you receive a PQRS

Source: YAWI IIPANA REDD+ Group Project

As part of the National Safeguards System and the REDD+ strategy, the Colombian Government is defining the conditions to operate a permanent complaints system.

Until this mechanism is in operational condition, the Biofix Questions, Complaints, Claims, Suggestions and Reports (PQRSD) Mechanism is being used.

During the formulation and implementation period of the project, different types of requirements, requests and/or petitions have been received regarding the initiative. Through the information request channel, email correspondence@biofix.com.co and the link that is enabled on the company's website, to be able to formulate PQRSD virtually, which have received a timely response within the established times. .

In addition, all audiovisual material shared on the website and through different social networks includes the necessary information about contacts and the registration process of questions, complaints and claims. The Project has also been in charge of document and report on the operation of the safeguards, on any complaints received and the way in which it has been addressed.

For all cases, Biofix BIC has implemented translation and accompaniment by interpreters of the necessary language in the informative and general assemblies, to generate equitable conditions in the management of information. Likewise, he built a material didactic translated into the Piapoco, Sikuani and Curripaco languages on the salvaguardas leaflet.

Safeguard B3: Responsibility in processes.

National Interpretation: Institutions and actors present reports on their management around REDD+ to the partners involved, the institutions and the general public and include information on the application and respect for safeguards.

In this sense, the responsible information management mechanisms implemented in REDD+ projects are summarized below:

Table 59. Responsible information management mechanisms

Request Manager	Monitoring	Periodicity
Financial information and accountability.	Delivery of management reports detailing the investment in each resource and the form of implementation. Meeting minutes. Presentations and audiovisual aids.	Financial management cial and territorial coordination of Biofix BIC.
Technical information and accountability.	Report on the progress and current status of the project, supported with images and meeting reports. Meeting minutes. Presentations and audiovisual aids.	Technical direction and territorial coordination of Biofix BIC.
Information about salt vaguards.	The National Safety System safeguards still need to be developed to monitor compliance with safeguards at different levels of implementation of REDD+, both national, subnational (programs) and local (projects); This system requires an institutional body established for this purpose such as the SMBYC. Due to the lack of a monitoring tool to comply with the safeguards, the Acts are implemented socialization meeting, and	Territorial coordination and other departments Biofix BIC.

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	presentations and audiovisual aids.		
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Source: YAWI IIPANA REDD+ Group Project

Safeguard B4: Recognition of forest governance structures.

National Interpretation: REDD+ actions are developed in accordance with the existing forest governance structures established by the regulations and/or establishing the necessary ones among the actors involved in the process (the strengthening or creation of a new structure can be an implementation mechanism. governance).

The forest governance structures in Colombia were projected from the REDD+ preparation process as a set of spaces at different management levels, to guarantee the participation, articulation and coordination of the different actors of the strategy, from a differential approach. At the national level, a National REDD+ Roundtable and consultation bodies with indigenous peoples and black communities; At the regional level, regional tables, articulating the departments, and municipalities in their planning and participation spaces.

The project's actions have been directed in accordance with the existing forest governance structures and among the actors involved in the process. Its application occurs in the implementation of the project manual (Annex 16a) and in the project management process policy (Annex 25b). Where the criterion is to provide training to the reserves for the structuring of investment projects and total autonomy in the implementation to leave installed capacity, as explained in section 1.7 of this document.

In this same sense, the YAAWI IIPANA REDD+ Grouped Project recognizes the forest governance structure of the Puinave and Curripaco peoples of the Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta indigenous reservation and others, which is described in the document of the Life Plan of the reservation, also within the framework of the recognition of the forms of management of forests and other ecosystems that this document is prepared taking into account all the data and documents on the subject.

Safeguard B5: Strengthening capacities.

National Interpretation: The strengthening of the technical, legal and administrative governance capacities of the actors directly involved is guaranteed, so that the parties can make documented, analyzed and informed decisions.

In this sense, Biofix BIC supports with its management the indigenous communities that propose the project to develop their capacities to face any type of situation. The means used are summarized below:

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Table 60. Requirements for strengthening technical, legal and administrative governance capacities

Request	Evacuation procedure Evaluation	In charge	Periodicity
Virtual sessions in-training and face-to-face.	Recording of the virtual meeting. Virtual meeting minutes where the comments made by the communities and the way in which these were received, explaining said decision.	Territorial coordination and coordination of Biofix BIC projects	At the request of the actors, in person.
Informative workshops in person.	Minutes of in-person meeting showing the comments made by the communities and the way in which these were received, explaining said decision. Photographs and videos.	Territorial coordination torial de Biofix BIC	At the request of the actors, in person.
Requests for information to be disseminated throughout the territory	Minutes of the in-person meeting showing the comments made by the communities and the way in which they were received, explaining said decision. Photographs and videos	Territorial Coordination torial And other dependency of BIOFIX BIC	When requested by the actors
Strengthening workshops safeguards.	Minutes of in-person meeting showing the comments made two by the communities and the way in which they were received, explaining this decision.	Territorial coordination torial de Biofix BIC	At the request of the actors, in person.

Source: YAWI IIPANA REDD+ Group Project

As part of the implementation of B5 safeguards in the development of the YAAWI IIPANA REDD+ group project, BIOFIX BIC has carried out activities that have achieved important advances in capacity strengthening issues.

During April 26, 27, 28 and 29, 2022 (annex 7), an information assembly was held in the Santa Rosa community of the Morichal Viejo Indigenous Reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others. This space allowed for an introduction to Social and Environmental Safeguards for REDD+ projects, with the participation of the eleven communities that are part of the Indigenous Reservation. The generality of the Cancún safeguards and their interpretation for Colombia, the importance of their implementation before and during the development of REDD+ projects, were explained.

In that sense, within the framework of the activity, some booklets that summarize the concepts of socio-environmental safeguards were also delivered. Material formulated by the BIOFIX BIC Project Management team.

The Indigenous Reservation, in its autonomy processes, has hired professional personnel in order to obtain technical capabilities and support in the development of its activities within the framework of the REDD+ project. BIOFIX BIC in search of Strengthening these capacities, on July 13, 2022 (annex 6a) met virtually with the technical team that is part of the Reservation with the objective of approaching the development of a safeguards workshop socio-environmental, which seeks to find both the negative and positive impacts that the REDD+ project has brought to date in the ethnic territory. The concepts of the 7 Cancun Safeguards and the 15 that are part of the interpretation in Colombia were addressed; Likewise, the methodology that is expected to be applied in the safeguards workshops to be held with the communities was explained.

In the process of generating strategies for the delivery of transparent information to communities, different activities have been implemented and among them, the workshop that was held on February 23 of this year with the RI technical team at the facilities of the office of the Indigenous Reservation in San José del Guaviare, which consisted of clarifying information about the YAAWI IIPANA REDD+ group project, delivering the financial report and a workshop for formulating investment projects. The activity was carried out within the framework of safeguards: B2 "Transparency and access to information", B3 "Accountability" and B5 "Capacity strengthening".

6.2 Social safeguards

6.2.1 Safeguard C: Respect for the knowledge and rights of indigenous peoples and members of local communities, taking into account relevant international obligations and national circumstances and laws.

Safeguard C6: Free Prior and Informed Consent (FPIC)

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National Interpretation: When a measure or action affects or may directly affect one or several ethnic groups, the national provisions regarding consultation and prior, free and informed consent established in legislation and jurisprudence, as well as by the guidelines given by the Ministry of the Interior as the competent entity in this matter with the support of the control bodies.

Table 61. Recognition of Indigenous and local communities

Manager	Evaluation procedure Requirements		Periodicals- dad
ILO Convention 169 and other forms of international law as applicable	Consent document signed by the representative of the group or community proposing the project.	Territorial Coordination and Legal Director BIOFIX BIC	In the formulation of the project and throughout the life of the project
For the structuring of the project, traditions, ancestral knowledge and local knowledge regarding the management and management of present ecosystems must be taken as a basis.	At the socialization assembly carried out the prioritization and identification of lines of action in a participatory manner and in the territory. The development of the workshop of lines of action and results of work tables with the communities are recorded through minutes, audio or video recordings, documents or any other means that guarantees that they were carried out. carry out these activities.	Coordination Territorial And other dependencies BIOFIX SAS BIC Consulting	In the formation of the project and throughout the life of the project

Source: YAWI IIPANA REDD+ Group Project

Safeguard C7: Traditional knowledge

National Interpretation: They are recognized, respected and promoted, in accordance with the provisions of national legislation and compliance with international conventions; traditional knowledge systems and the visions of the territory of ethnic and local peoples and communities.

Table 62. Requirements for the recognition of traditions and visions of indigenous peoples.

the gene			
Request	Monitoring	In charge	Periodicity
Identify and enforce rights over the territory in	Have the documents that prove the collective territory.	Territorial coordination of Biofix BIC	During the useful life of the project
the one who develops the initiative	Have an inventory of communities and inhabitants.		

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	Request the annual census-mind. Determine if the communities are ethnically differentiated and apply differential treatment. According to ILO Convention 169 and other forms of international and national law as applicable.		
To structure the project, traditions, ancestral knowledge and local knowledge must be taken as a basis. regarding the management and administration of the present ecosystems.	At the socializing assembly tion was carried out in the territory rio the prioritization and identification of lines of action of participatory way Minutes, audio or video recordings, documents or any other means guarantee carrying out these activities.	Territorial coordination torial de Biofix BIC	During the useful life of the project
Evaluation of activities lives that have historically been developed lled in the territory.	The project formulation includes life plans, contracts and signed projects that demonstrate the sustainable management of the reserves. carbon. The PDD includes data and documents that show the traditions and historical activities in the territory.	Territorial coordination torial de Biofix BIC	During the useful life of the project

Source: YAWI IIPANA REDD+ Group Project

Safeguard C8: Distribution of benefits.

National Interpretation: The fair and equitable participation and distribution of the benefits generated by the policies, measures and actions to reduce deforestation for ethnic and local peoples and communities is guaranteed, and of all those benefits derived from knowledge, innovations and traditional practices for the conservation and sustainable use of forests, their diversity and Ecosystem Services,

The document “Regulatory Framework: Analysis of the Colombian legal framework” contains a series of regulations in which benefit distribution safeguards are framed. However, there is no specific regulation in Colombia that defines the guidelines for carrying out a distribution of benefits derived from REDD initiatives and projects.

The program's benefit and investment distribution scheme is based on four financial lines within which are included the lines of action prioritized and prepared by the Morichal Viejo indigenous reservation, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, described in [section 1.7.2 \(annex 16\)](#)

Safeguard C9: Territorial rights

National Interpretation: The collective and individual territorial rights of ethnic and local peoples and communities are respected; its use and cultural, economic and spiritual meaning.

Based on this, Biofix BIC carries out a governance analysis included in Annex 9, which reflects the analysis of official documents, as well as international, national and contextual provisions that allow understanding the situations related to the collective ownership of the land and natural resources held by the inhabitants of the indigenous reserve Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta and others, proponents of the YAAWI IIPANA REDD+ grouped project. It is intended to rescue those aspects related to the governance and collective ownership of the YAAWI IIPANA REDD+ Grouping Project.

6.2.2 Safeguard D: Full and effective participation of interested parties, in particular of indigenous peoples and local communities.

Safeguard D10: Full and effective participation of interested parties.

National Interpretation: The right to full and effective participation of all actors involved is respected to guarantee governance and adequate decision-making on REDD+.

For this project, in relation to the participation processes, the main focus has been on the approach and participation process to obtain free prior and informed consent, which was described in [section 5](#).

6.3 Environmental safeguards

6.3.1 Safeguard E: Conservation and benefit

Safeguard E11: Conservation of forests and their biodiversity.

National Interpretation: REDD+ initiatives support the conservation of forests and the implementation of measures established for this purpose.

The lines of action proposed by the indigenous reservation aim to conserve the ecosystems and forest cover in the project area through annual monitoring of deforested or degraded areas, issuing early warnings and updating the identification of agents and factors of deforestation. The project also includes

participatory reforestation initiatives in degraded areas of the territory, together with the communities, under a property component in the conservation and management of natural resources.

Safeguard E12: Provision of ecosystem goods and services.

National Interpretation: REDD+ Initiatives support the provision of and enjoyment of ecosystem services.

The project guarantees the provision and maintenance of various ecosystem services for the benefit of communities. It proposes reforestation initiatives in waterways in degraded areas and strengthens income diversification in communities through green businesses, which will generate resources as the ecosystem is properly managed.

6.3.2 Safeguard F: Prevention of the risk of reversals

Safeguard F13: Environmental and territorial management.

National Interpretation: REDD+ initiatives support the consolidation of territorial and environmental planning instruments provided for in the legislation, under a focus on conservation and sustainable management of the forest.

The project guarantees the long-term sustainability of its activities to address the risks of reversal, articulating actions with local and regional planning instruments, the environmental determinants defined by the regional environmental authorities (CARS) and the actions and programs established within land use planning schemes.

In this sense, the project guarantees compatibility with the plans of land use planning instruments, such as the departmental development plans and the Life Plan of the proponent. Additionally, in compliance with the environmental requirements established in the legislation, described in [section 4](#).

Safeguard F14: Sector planning.

National Interpretation: Sectoral REDD+ actions are proposed based on environmental and territorial planning instruments, as well as legislation related to the conservation of forests and their biodiversity.

Additionally, it is coordinated with Colombia's public climate change policies, ENREDD+, the National Adaptation Plan and CONPES 3918 of 2018, [section 4](#).

6.3.3 Safeguard G: Adoption of measures to reduce the displacement of emissions

because.

Safeguard G15: Displacement of emissions.

National Interpretation: REDD+ initiatives incorporate measures to reduce the displacement of emissions and ensure timely monitoring and control.

The project establishes measures to avoid the displacement of emissions, through the estimation of the leak area, adjacent to the project area, where a discount of the emissions reduced by the possible displacement of deforestation drivers is assumed.

7 Risks, uncertainty and non-permanence

In accordance with the document “*Cercarbono Guidelines for estimating the Carbon Reserve in climate change mitigation initiatives in the land use sector V 1.2*”. The YAAWII IIPANA REDD+ Grouped Project, for the certification period and useful life, estimated 8.0% of the reduction in net GHG emissions to be presented as a reserve discount for the deforestation and degradation segments (see annex 13 and 25a , 25b, 25c, 25d and 25e) equivalent to 3% individual reservation discount reflected in **648,306 tCO₂eq** PVU and **434,101 tCO₂eq** PA. On the other hand, the collective reserve discount, 5%, represents **1,080,510 tCO₂eq** PVU and **723,501 tCO₂eq** PA. For a total of 8% reserve, equivalent to **1,728,816 tCO₂eq** for the useful life period (PVU) and **13,312,421**

tCO₂eq for the accreditation period (AP), as broken down in section 3.4 of [this document](#), in annex 13, PDD sheet SEC 7 and in the document Disaggregation tables (annex 30a). The above results in a total of Carboncer-type emissions of **19,881,382 tCO₂eq** and **13,312,421 tCO₂eq** for PVU and PA, respectively.

Likewise, within the framework of the analysis of the non-permanence risk tool (Annex 25a), the most representative risk was related to the fact that the project does not have an action plan to reduce dependence on external actors. However, it is intended to consolidate a plan that reduces this dependency as the lines of action are implemented.

On the other hand, the uncertainty and margin of error, associated with the calculation of activity data, emission factors, projection method and all subsequent factors of these calculations, has been limited to the NREF 2019 reference level. where it is assumed that the precision must be greater than 90% and the emission factors must consider the uncertainty of 10% for the use of average carbon values (the evaluation must be done per deposit). If the uncertainty is greater than 10%, the lower value of the 95% confidence interval should be applied, as described in section 11.

8 Contributions to the United Nations Sustainable Development Goals

The activities carried out in the monitoring report of the YAAWI IIPANA REDD+ Grouped Project were focused on improving the living conditions of the population of the proposing indigenous reservation, as well as protecting and conserving the ecosystems within the territory. These actions specifically contributed to SDGs 1, 2, 8, 13 and 15 according to the indicators described in the *“Cercarbono Tool to report contributions of climate change mitigation initiatives to the Sustainable Development Goals V 1.3”* which can be seen in annex 23a and 23b

On the other hand, the structuring of the project with respect to the lines of action identified by each community of the indigenous reservation positively impacts the social, economic and environmental component in the proposing communities, for the investment projects within the framework of the implementation of the REDD+ project. As described below

1.1 Social Co-benefits

- Improvement of the basic sanitation conditions of the population belonging to the indigenous reservation participating in the project, in order to guarantee minimum public health conditions for the correct functioning of the social structure. Represented in the indicators of unmet basic needs, coverage and social gaps.
- Improvement of educational levels in all age groups of the reservation and in the different training modalities, guaranteeing the increase in the skills of the population of economically active age, the recovery and strengthening of traditions and knowledge, and the coverage of children and young people of school age. Represented in the coverage, level and competitiveness indicators.
- Improvement in the provision of health services and expansion of care coverage for community members. Represented in the coverage, incidence and prevalence indicators.
- Improvement of the living conditions of the families that are linked to the project, with the coverage of locational improvements required in their homes that allow reducing the percentages of registered unsatisfied basic needs.
- Strengthening the governance and territorial autonomy of the reservation and its structure internal administrative.
- Strengthening the ancestral traditions and culture of the Curripaco and Puinave.
- Strengthening the relationship and protection of the territories based on capacity tations for the training of forest custodians.
- Definition of the long-term territorial projection agreed upon by the different local actors. Represented in the constructed territorial planning instruments.

1.2 Environmental Co-Benefits

- Protection of local and migratory biodiversity by guaranteeing the conservation of ecosystems, the provision of ecosystem services and their own ecological dynamics, prioritizing attention to species categorized as having some level of threat.
- Increase in the number of hectares monitored, registered and presented in annual reports on the surveillance of the area and the maintenance of natural habitats such as rivers and gallery forests.
- Increase in natural capital through participatory reforestation actions in water circuits and degraded ecosystems.
- Contribution to the improvement of the quality of the water resource with the benefits generated from the processes of reforestation, transformation or reconversion of economic activities and incorporation of good practices in the disposal of waste and discharges.
- Improvement of solid waste management within the indigenous reservation, with the incorporation of technological innovations within the life cycle analysis for production processes.
- Reduction of vulnerability to future climate events, through the creation of awareness about the risks associated with climate change and the incorporation of climate risk management into economic and territorial development planning.

1.3 Economic Co-Benefits

- Consolidation of ventures and association and innovation initiatives between community organizations and companies that emerged during the development of the project or were previously formed. Represented in the number of ventures generated, improved and sustained over time.
- Improvement of mobility for the development of social, productive and commercial activities based on the program to improve river and land mobility. Represented in the reduction of transportation costs and times.
- Training and permanent support in the administrative and financial management of the resources coming from the project and obtained through alliances and co-financing, which guarantee the economic sustainability of the implemented lines of action. Represented in the economic and accounting indicators of the trusts.
- Generation of formal jobs with the applicable legal guarantees for community members who have been part of the training processes and who are linked under the different lines of action. Represented in quality of life and employability indicators.

Promote the economic valuation of ecosystem services and account for how sustainable activities maintain the flow of these services, promoting the sustainable management of the landscape and its ecological integrity at the territorial level.

9 Grouped project

The grouped project will be divided into two instances: (i) area of the reservation overlapping with the Nukak National Natural Reserve and (ii) reservation area without overlap with the protected area in question and will meet the following technical criteria:

- i. The start date of the mitigation initiative will be 01/01/2016, adjusting to the use of the following documentation: **(i)** *Cercarbono protocol for voluntary carbon certification V 4.1*, **(ii)** *M/UT-REDD+ methodology for the execution of REDD+ projects consistent with national reference levels V 1.3*, **(iii)** *PDD Template: 2022.08.12 – UT Sector – V 2.0.1* and **(iv)** *Monitoring Report Template – UT Sector – V 1.0.1* and all the tools that are an integral part of the program.
- ii. The validation process of the two instances mentioned in section 2 will be carried out, and the verification of only the area corresponding to the first instance in the period 01/01/2016 – 12/31/2019, whose baseline it will be between the reference period 2005-2014, to maintain coherence between the instances, since the second instance has already carried out a process of canceling emissions reduction credits under this reference period for the construction of its baseline. . **iii.** A verification process of the two instances will be carried out jointly starting on 01/01/2020, in which, given that the start date is 2016, a baseline update will be carried out with a reference period between 2010-2019, in order to maintain the technical consistency of the baseline update after the project start date.
- iv. The developer will ensure that the quantified segments do not generate double accounting between instances or with subnational programs.

The second instance is the one that is added, given that although it was part of a REDD+ mitigation project with the generation and cancellation of emissions reduction credits between 2015-2019, currently said area is withdrawn from the certified program. -initial dor, in order for it to be part of the second instance of project ID 102 YAAWI

IIPANA REDD+ of the CERCARBONO program as of 01/01/2020, thus guaranteeing no double accounting; The justifying reasons for the inclusion of this instance are:

- i. The polygon is an integral part of the constitution resolution 045 of 1998 of the proposing indigenous reservation.
- ii. The emissions reduction rights belong to the owner of the territory, in this case the proposing indigenous reservation
- iii. The actions planned in the implementation stage do not go against the mission of the protected area, on the contrary, they will contribute to the protection of its values obtained from conservation
- iv. The figure of the park is purely administrative and does not have tenure rights over this territory and the proposing reservation is willing to work accordingly.

jointly in order to mitigate deforestation and forest degradation in these areas

- in.* The investment projects managed to date by the proponent and those that will be managed with the financial resources obtained from the commercialization of the emissions reduction credits of this initiative, have been and will be invested in all the communities that comprise it, regardless of whether These are in an area that overlaps with the protection figure or not.

Finally, it is necessary to highlight that neither the proponent nor the developer intends to include new instances in the future, therefore, the previous physical, socioeconomic and environmental conditions were not determined for this purpose.



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10 PMCC Monitoring

The monitoring of the YAAWI IIPANA REDD+ Grouped Project presents two components, the first is associated with the monitoring of the activities established in the lines of action of the REDD+ initiative and the second with respect to the monitoring of those data, variables and parameters that are important to monitor the quantification of emissions reduction that applies to both the baseline and the project in the implementation phase.

10.1 Monitoring plan

The lines of action of the REDD+ project need to be monitored, since, by focusing on activities to strengthen governance, monitoring and rehabilitation of deforested and degraded forests and implementation of productive systems, they will account for the behavior of the reduction of emissions and the possible emissions that may occur in the project. The lines of action are described in depth in Annex 16.

Table 63. Monitoring Plan of Grouped Project activities YAAWI IIPANA REDD+

Activity	Aim	Subactivities	Indicators	Measurement period	Related actors
TRANSVERSAL LINES OF ACTION					
Intercultural strengthening and governance	Implement actions of training, endowment and strengthening of the authorities-traditional res- I remain a proponent of the project	Preparation of studies, designs and technical documents necessary for the construction of community headquarters. rias	<u>Indicators</u> Total number of people benefited	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others
		Construction and provision of community and administrative headquarters	Number of women benefited		<u>Possible actors to participate</u> <u>about</u>
		Recovery and improvement of ancient roads	Number of elements, equipment or inputs purchased		THIS
		cestrales	Number of meetings community carried out		Education institutions superior

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		Formulation, design and/or improvement of planning instruments	Number of planning instruments		Guaviare Governorate
		Formulation and implementation of training processes for captains, leaders, youth and women, through the creation of schools those of political and cultural training	Number of local labor jobs		
			Total number of people trained		
			Number of equipment intervened		
		Training, provision and support for indigenous guards in the	Number of women trained in governance processes nance		
		Promotion of the production of typical crafts from the res-guardo	Number of community leaders trained		
		Creation of spaces at different scales for the exchange of knowledge led by the wise elders of the reservation	Number of studies and/or characterizations carried out		
			<u>Supports</u>		
			Results of joint construction processes		
		Recovery program for the etymological, linguistic and alphabetical theory of the peoples that are part of the reservation	Formulated life plans		
			Ethnodevelopment programs		
			Construction plans and improvements		
			Purchasing plans		
			Shopping supports		

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			Reports of training processes Lists of attendance at training or meeting spaces Destination reports resources Delivery records		
Strengthening education tion	Give communities opportunities to access higher education, and the improvement of education at a general level at all levels	Acquisition of means of school transportation Programs to strengthen and expand coverage in literacy processes, baccalaureate for adults and non-formal education Review, adjustment and application of the international education system own tegral Provision of elements to strengthen recreational sports activities. your Development of artistic programs through the purchase and teaching in the performance of musical instruments Construction, provision and adaptation of dining rooms and kitchens in each school	Indicators Total number of people benefited Number of teachers against tado Number of trained teachers Number of educational locations equipped and with loca-tive improvements Number of young people linked to higher education programs Number of hospitalized patients tricked and gifted Number of women benefited Number of equipment intervened	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others <u>Possible actors to participate</u> <u>about</u> THIS Secretaries of education of Guaviare Education institutions superior ICBF

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		Improvement, construction of classrooms and provision of educational centers and institutions catives for primary and secondary educational levels	Number of community meetings held		
			Number of local labor jobs generated		
		Hiring of teaching staff for the schools of the communities that make up the reservation and the personnel necessary for its operation	Number of benefited students		
			Number of educational locations intervened		
		Training program for professional teachers for different grades	Total number of people trained		
			Number of scholarships awarded		
		Educational strengthening program for access and support in higher education programs	<u>Supports</u> destination report resources		
		Housing and economic subsidy for students from the reservation who are training in higher education programs	Construction plans and improvements Inventories of teaching materials, equipment and supplies delivered		
		Manage scholarships and agreements with universities for high school graduates	Inventory of institutions educational facilities built, equipped and adequate		
		Construction, remodeling, maintenance and provision of educational centers with sanitary unit, drinking water and solar energy installations	SEIP Document Lists of attendance at training and support for activities carried out		

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		Construction, remodeling and maintenance of accommodation for teachers in all communities.	BD linked teaching staff		
		of the	Plans and support Pras		
		Construction, remodeling, maintenance and provision of boarding schools in the res- I watch	Delivery records		
Health care program	Provide the communities of the reservation with medical care and advice in accordance with their traditions in dental, sexual and reproductive matters.	Construction, improvement, adaptation and provision of health posts and hiring of qualified personnel	<u>Indicators</u>	Yearly	<u>Direct actors</u>
		Demand coverage nutritional in children, the elderly, pregnant and lactating women	Number of alliances created with public and/or private entities		Old Mori-chal Indian Reserve and others
		Consolidation of care, care and protection services for indigenous children who are victims of abuse, abandonment, rape and those in vulnerable situations.	Number of health brigades carried out		<u>Possible actors to participate</u> <u>about</u>
		Training of health promotion personnel, first aid providers and nursing assistants	Total number of people trained		Departmental Secretariat of Health
		Training in health prevention	Number of public service equipment intervened		SISBEN
			Number of local labor jobs generated		
			Number of elements, equipment or inputs purchased		
			Number of women benefited		

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		Strengthening and recognition of ancient knowledge cestrales	Total number of people benefited		
		Training of new generations by ancestral knowledge	Epidemiological incidence and prevalence rates		
		Acquisition, improvement and maintenance of adequate means of transportation to transport patients	<u>Supports</u>		
		Orchard construction to plant medicinal plants and preserve the area or places where medicinal plants are found	Purchase plan and supports		
		Construction, fitting out, maintenance and improvement of a rehabilitation center local litigation	Contracts signed		
			Construction and/or adaptation plans		
			Lists of beneficiaries in the health brigades – Characterization of population groups		
			Training attendance lists		
			Photographic register		
			Destination reports resources		
			Delivery records		
Participatory reforestation of degraded ecosystems	Formulate and implement reforestation processes and recovery of native vegetation in water circuits and soils degraded by conflicts of use with	Prioritization and definition of areas to intervene and species to reforest	<u>Indicators</u>	Yearly	<u>Direct actors</u>
		Strengthening knowledge traditional practices in the protection of natural resources	Total number of people benefited		Old Mori-chal Indian Reserve and others
			Number of potential and priority hectares identified for reforestation		<u>Possible actors to participate</u> <u>about</u>

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	participation of local communities	Training and training of forest custodians	Number of women benefited		THIS CDA
		Installation and operation of nurseries: Construction of systems but for the massive production of seedlings of native timber and non-timber species at risk to carry out reforestation processes	Number of elements, equipment or inputs purchased Number of jobs local labor genera-two Total number of hectares reforested, recovered or rehabilitated		
		Participatory reforestation program: Includes prior training, transportation, land adaptation and planting of timber and non-timber species, as well as their subsequent maintenance	Total number of planted individuals Total number of people trained Number of nurseries achieved		
		Once the areas have been reforested prioritized areas, monitoring systems will be available. reo and periodic information from remote sensors (optical, radar and drones) of high spatial resolution and field information collected by forest custodians will be used, with the mission of annually evaluating the resources. results of reforestation of risk timber species	Number of species studied Number of species under some management <u>Supports</u> Results reports Shopping supports Contracts signed Deforestation or degradation alert reports		

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			Destination reports resources		
			Delivery records		
Deforestation and forest degradation monitoring and control program	Monitor changes due to deforestation and/or degradation in the area of influence through the processing of satellite images and/or taken for the project	Design of protocols for deforestation monitoring applied to the conditions of the project area and its surroundings. Includes protocols for the processing of remote sensors and field data collection, definition of routes, determination of actions or evidence of potential deforestation, frequent detailed monitoring of the project area and its surroundings for the possible identification of alerts early with the use of satellite images Constant review of information on a general scale of early warnings published by IDEAM Taking images, processing and videos of potential areas with deforestation processes as indicated by the early warnings generated and in areas defined as vulnerable. use of drones, and data collection in the field according to established protocols	<u>Indicators</u> Total number of alerts covers by year Total number of hectares affected by Deforestation and Forest Degradation Total number of hectares reforested, recovered or rehabilitated Total number of people trained Agents and actors, new or repeat generators identified <u>Supports</u> satellite images Images taken with drone because Images and videos taken on field Early warnings reported by IDEAM	Annual and bimonthly	BIOFIX will be in charge of carrying out the monitoring program through joint work between expert trainers and community rangers

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		Identification of causes and generating agents of changes in coverage based on primary information provided by trained and formally hired forest custodians	Periodic monitoring reports Attendance lists and training reports Forest degradation study		
		Execution of a study on forest degradation to complement the primary information of the project regarding the drivers and quantification of affected areas due to degradation, as well as the generation of the respective GIS layer (this is intended to be consolidated in 2025 to 2026 when sufficient statistical information is available. technical support ethics)	Destination reports resources		
	Transfer knowledge in monitoring forest custodians	Training forest custodians in the use of drones for monitoring and reporting information			
SPECIFIC LINES OF ACTION					
Program for the empowerment of indigenous women	Achieve recognition of the role of indigenous women within their communities. des, seeking their empowerment through productive and governance initiatives	Training in governance and leadership to encourage their participation as an indigenous authority	Indicators	Yearly	Direct actors
		Support program for pregnant and lactating mothers	Number of women benefited		Old Mori-chal Indian Reserve and others
		Promotion of training and employability initiatives	Number of elements, equipment or inputs purchased Number of community meetings held		<u>Possible actors to participate</u> <u>about</u> Guaviare Governorate

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		as family economic support for mothers who are heads of household	Number of local labor jobs generated		
		Support in the constitution of associations and cooperatives to develop projects, with their respective training program in associativism and project formulation	Total number of people trained		
		Consolidation of the service of attention, care and protection of indigenous children who are victims of abuse, abandonment, rape and in situations of vulnerability	Number of women trained in governance processes nance		
			Number of pregnant and lactating mothers benefited		
			Women heads of household benefited		
			<u>Supports</u>		
			List of benefited women		
			Documents for the constitution of enterprises and/or associations		
			Plans and support Pras		
			Reports of training processes		
Lists of attendance at training or meeting spaces					
Destination reports resources					
Delivery records					

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Production, supply and marketing in traditional Conu-cos and Chagras of the communities	Strengthen and/or design the system of production, transformation and marketing of agricultural products in the communities	Consolidation of a community seed bank: Define and standardize the process for the collection, selection, storage, labeling, maintenance and exchange of seeds of native varieties used	Indicators	Yearly	Direct actors
		in the conucos	Number of studies and/or characterizations carried out		Old Mori-chal Indian Reserve and others
		Feasibility study: Lle-carry out pilot projects, in order to determine the feasibility of the initiatives productive from the economic, technical and environmental perspective, their productivity and the needs of the market	Number of species under some management		<u>Possible actors to participate</u> <u>about</u>
		Definition of areas to intervene: Use of technological criteria logical, technical and territorial measures to specify suitable priority areas, without incurring deforestation or forest degradation	Number of species studied		THIS
		Installation and rotation of crops: In the initial stage, extensions of the territory will be available for planting and maintaining crops by local labor, without incurring deforestation of the areas.	Number of technological processes implemented and described		Guaviare Governorate
		preserved	Number of equipment for productive activities		MATAs
		Training and certifications in good practices	Number of derived products obtained		
			Hectares intervened in productive systems		
			Total number of people trained		
			Number of local labor jobs generated		
			Total number of people benefited		
			Number of women benefited		
			Number of production chains intervened		

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		agricultural and environmental: Training the community in associative, administrative, productive processes and in improving practices, so that agricultural production and extraction of derivatives meet the quality and safety requirements and be competitive in the markets	Total number of planted individuals Number of alliances created with public and/or private entities <u>Supports</u> Feasibility studies Results reports within the installation process Contracts signed Lists of assistance to training processes Photographic register Purchasing plans Shopping supports BPA certifications achieved Registration certificate at the window Delivery records		
		Green business window registration: To have the technical support, evaluation of progress and commitments by the Environmental Authority, projects will be registered through the entry window. tity			
		Transformation and marketing of products: This activity includes both the acquisition of supplies and equipment necessary for transformation activities. tion, the adequacy of the spaces to be used, as well as the definition of the chains of market for marketing, training of participating residents and start-up			
Strengthening the sector livestock – productive:	Design the system of production, use and marketing of products extracted from species	Technical advisory training: Accompaniment by experts in the determination of requirements	<u>Indicators</u>	Yearly	<u>Direct actors</u>

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Use of minor species	minors such as laying and fattening birds, fish and pigs	productive and sanitation infrastructure, technical and operational concepts for breeding, management and use of minor species. As well as, in the formulation of Environmental Management Plans and their management with the relevant environmental authorities.	Total number of people benefited		Old Mori-chal Indian Reserve and others
			Number of women benefited		
			Number of elements, equipment or inputs purchased		
			Number of local labor jobs generated		
		GAP training: Community-linked training	Total number of people trained		<u>Possible actors to participate</u> about THIS Guaviare Governorate
		lada, in good livestock, safety and environmental practices associated with the breeding and use of minor species. Will be performed	Hectares intervened in productive systems		
		periodically (every third year) to guarantee the inclusion of new initiatives and the updating of members.	Number of individuals of livestock species acquired		
		community members who are implementing the project	Number of derived products obtained		
		Construction, adaptation and provision of productive spaces: Construction of the productive infrastructure and acquisition of equipment and supplies necessary for the breeding, management, use and benefit of the species, on a biannual basis.	Number of equipment for productive activities		
			Number of production chains intervened		
			Number of species under some management		
			Number of alliances created with public and/or private entities		
		Establishment of breeding stock: In accordance with the permits granted and/or the			

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		estimates contemplated in the feasibility studies dad	Number of technological processes implemented and described		
		Management, use and marketing: Acquisition of inputs and equipment necessary for transformation and input activities. corporation of market chains for marketing and start-up	<u>Supports</u> Feasibility studies Environmental management plans generated and processed Contracts signed Plans of the infrastructures of the production chains your Trained and certified community members Inventories of individuals by species and characterization Lists of assistance to training processes Photographic register Purchasing plans Shopping supports Execution report Delivery records		
Strengthening the sector agricultural – productive: tubers, fruit trees, vegetables, cereals and legumes	Guarantee and provide food security for communities communities, diversifying	Feasibility study: will be carried out based on pilot projects, in order to determine the viability of productive initiatives	<u>Indicators</u> Total number of people benefited	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others

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the productive chains of agricultural products	from the economic, technical and environmental perspective, its productivity and the needs of the market	Number of women benefited	<u>Possible actors to participate</u> <u>about</u> Guaviare Governorate MATAs
	Definition of areas to be intervened nir: Use of technological criteria logical, technical and territorial measures to specify suitable priority areas, without incurring deforestation or forest degradation	Number of elements, equipment or inputs purchased	
	Installation and rotation of crops: In the initial stage, extensions of the territory will be available for planting and maintaining the crop by local labor, without incurring deforestation of conserved areas. The monitoring of the	Number of local labor jobs generated	
	crops will be annual and will provide a final report on the viability and operation of these	Total number of planted individuals	
	Training and certifications in good agricultural and environmental practices: Training the community in associative, administrative and productive processes and improvement of practices, in order that agricultural production and extraction of derivatives meet the requirements of quality and	Hectares intervened in productive systems Number of derived products obtained Number of equipment for productive activities Number of production chains intervened Number of species studied Number of species under some management Number of alliances created with public and/or private entities <u>Supports</u> Feasibility studies	

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		safety and is competitive in the markets Business Window Registration Greens: To count on the technical support, evaluation of progress and commitments by the Environmental Authority, projects will be registered through the entry window. Transformation and marketing of products: This activity includes both the acquisition of supplies and equipment necessary for transformation activities, the adaptation of the spaces to be used, as well as the definition of supply chains. market for marketing, training of participating residents and start-up	Results reports within the installation process Contracts signed Lists of attendance training processes Photographic register Purchasing plans Shopping supports BPA certifications achieved Registration certificate at the window Delivery records		
Sustainable use, transformation and marketing of timber and non-timber products of importance to communities	Strengthen supply chains for in the production and marketing processes of the products identified by the communities in order to provide them with different sources of income	Identification, analysis and study of species that have some type of use Training and technical assistance to indigenous communities for the collection of species Design of the recovery system lesson of crops under sustainable models that do not	<u>Indicators</u> Total number of people benefited Number of women benefited Number of elements, equipment or inputs purchased	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others <u>Possible actors to participate</u> <u>about</u> CDA

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		promote forest degradation of forests	Number of local labor jobs generated		
		Implementation of collection systems	Total number of planted individuals		
		Feasibility study: Counting on the technical and investigative support of specialists in the implementation of productive processes in accordance with each species	Total number of people trained		
			Hectares intervened in productive systems		
			Number of derived products obtained		
		Definition of areas to be intervened nir: Identification of zones nas with predominance of the identified species and demarcation of individuals	Number of equipment for productive activities		
			Number of production chains intervened		
		Training and technical assistance to indigenous communities on the treatment, exploitation and use of the identified species, under parameters of good environmental practices, identifying the possible impacts generated by the development of the activities	Number of species studied		
		Number of species under some management			
		Number of studies and/or characterizations carried out			
		Number of alliances created with public and/or private entities			
		Construction and provision of the transformation center: Infrastructure construction productive ture and acquisition of necessary equipment and supplies	<u>Supports</u>		

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		Implementation of species extraction and use systems	Feasibility study		
		Transformation and marketing of products: This activity includes both the acquisition of necessary supplies and tools	Results reports within the installation process		
		for transformation activities, the adaptation of the spaces to be used	Contracts signed		
		Promotion of transformed products: It is intended to carry out a campaign to promote the marketing of these products	Lists of assistance to training processes		
			Photographic register		
			Purchasing plans		
			Shopping supports		
			Delivery records		
Systems diversification productive for self-sufficiency and marketing of non-conventional agroforestry products	Implement areas of crops different from those traditionally used by the community.	Feasibility study: will be carried out based on pilot projects, in order to determine the viability of	Indicators		Direct actors
region of	ity, which can provide additional benefits and incentives	productive initiatives from the economic, technical and environmental perspective, their productivity and the needs of the market	Total number of people benefited		Old Mori-chal Indian Reserve and others
	tional for its establishment, production and marketing	Definition of areas to intervene: Use of technological criteria	Number of women benefited		Possible actors to participate
		logical, technical and territorial measures to specify suitable priority areas, without incurring deforestation or forest degradation	Number of elements, equipment or inputs purchased		<u>about</u>
		Installation and rotation of timber crops: In its initial stage will be available	Number of local labor jobs generated		CDA
			Total number of individuals planted		
			Total number of people trained		

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		extensions of the territory for planting and maintaining the crop by local labor, without incurring deforestation of conserved areas.	Hectares intervened in productive systems		
		Training and certifications in good agricultural and environmental practices: Training the community in	Number of derived products obtained		
		associative, administrative and productive processes and improvement of practices, so that agricultural production and extraction of derivatives meet quality and safety requirements and is competitive in the markets	Number of equipment for productive activities		
		Business Window Registration Greens: To count on the technical support, evaluation of progress and commitments by the	Number of production chains intervened		
		Environmental Authority, projects will be registered through the entity's window	Number of species studied		
		Transformation and marketing of products: This activity includes both the acquisition of supplies and equipment necessary for transformation activities.	Number of species under some management		
		tion, the adequacy of the spaces to be used, as well as the definition of the chains of	Number of studies and/or characterizations carried out		
			Number of alliances created with public and/or private entities		
			<u>Supports</u>		
			Feasibility study		
			Results reports within the installation process		
			Contracts signed		
			Lists of assistance to training processes		
			Photographic register		

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		market for marketing, training of participating residents and start-up	Purchasing plans Shopping supports Delivery records		
Acquisition, improvement and provision of community facilities and reservation housing	Promote the improvement of the quality of life of communities of the reservation of interest through local improvements and/or housing provisions	Training for members of the protection in construction and adaptation of equipment to be incorporated in the different civil works to accomplish	<u>Indicators</u> Total number of people benefited Number of women benefited	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others <u>Possible actors to participate about</u> Guaviare Governorate Private construction companies in the region
		Adaptation of equipment and pre-feasibility studies of the spaces that will be incorporated in the different civil works to be carried out	Number of elements, equipment or inputs purchased Number of equipment intervened		
		Definition of areas to be intervened nir: Use of technical criteria and territorial to specify the areas conducive to intervening in the communities of the reservation, without incurring deforestation	Number of local labor jobs generated Number of dwellings comings		
		Contracting of technical and civil studies: Support by experts in determining the designs, plans, equipment, supplies and resources required, in accordance with the physical conditions of the region	Total number of people trained Number of studies and/or characterizations carried out <u>Supports</u> Budget execution report		
		Construction, adaptation and provision: Execution of civil works and acquisition of the equipment required to	Photographic register		

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		provide the intervened spaces	Final execution report		
		Construction and adaptation of eco-efficient stoves in the homes of the communities	Shopping supports		
		Monitoring and maintenance of the installed eco-efficient stoves	Reports of training processes		
		Implementation of solar energy systems and power plants for community and housing benefit	Workshop and training attendance lists		
			Delivery certificates in accordance		
			Adjustments made		
		Construction of water supply systems for communities			
		Construction and implementation of solid waste collection and management points			
River and land mobility improvement program	Provide the communities of the Reservation with the infrastructure and equipment necessary to guarantee river, land and air travel.	Provision of boats for communities destined for mobilization in schools, health posts, transportation of passengers and cargo, along with the protection elements necessary for their use and the respective procedures for their implementation	<u>Indicators</u> Total number of people benefited Number of women benefited Number of elements, equipment or inputs purchased Number of equipment intervened	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others <u>Possible actors to participate about</u> Private companies in the region Guaviare Governorate
		Charging systems for boats and cargo vehicles for passages in different			

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		communities intended for the mobilization of boats along with the protection elements necessary for their use and the respective procedures for their implementation Acquisition of fuel to guarantee the operation of the means of transport vilization purchased Planning of preventive and corrective maintenance of the vessels and vehicles acquired Improvement and construction of bridges, passes, roads and highways that improve communications to the interior of the communities indigenous Adaptation of landing strips for air ambulance rea	Number of local labor jobs generated Number of means of transport achieved Total number of people trained <u>Supports</u> Execution reports Contracts signed Delivery certificates in accordance Purchasing plans Shopping supports Budget execution reports Inventory of boats and/or vehicles acquired Copy of the licenses and procedures required for your operation		
Connectivity and communications program	Build and provide the necessary infrastructure to provide connectivity solutions. ity and improvements in	Construction, provision of digital kiosks with internet service for each community of the reservation	<u>Indicators</u>	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others

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	communications from the communities that make up the reservation	Assembly and commissioning of mobile phone antennas	Number of buildings and infrastructure associated with the Internet service		<u>Possible actors to participate</u>
		Awareness, about-training and training for community members on the use of ICTs scheduled to be carried out each intermediate year	Number of studies and/or characterizations carried out Total number of people trained Number of benefited students Number of local labor jobs generated Number of community meetings held Number of elements, equipment or inputs purchased Number of women benefited Total number of people benefited <u>Supports</u> Structural plans of the kiosks and/or works Shopping supports Contracts signed Budget execution report		<u>about</u> Ministerio TIC Guaviare Governorate

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			Photographic register Training reports and attendance lists Delivery records		
Strengthening initiatives paths of association, cooperation and community entrepreneurship	Generate the capabilities and obtain the necessary inputs saries for the establishment of community enterprises that contribute to social well-being in communities	Training and training in social and solidarity economy, and in the different forms of organization and its respective your processes Consolidation of social and solidarity organizations in the reservation, with advice for their operation Promotion of initiatives training and employability as economic support family for mothers who are heads of household Preparation of the tourism plan: Based on the results of the studies, the community will proceed to design the eco-tourism plan, estimate costs, define activities and services to be promoted. according to the identified potential Creation of community tourism companies: From the training of members community bros	<u>Indicators</u> Total number of people benefited Number of women benefited Number of elements, equipment or inputs purchased Number of equipment intervened Number of meetings community carried out Number of local labor jobs generated Number of community leaders trained tarians Number of associations and ventures strengthened and/or generated Total number of people trained	Yearly	<u>Direct actors</u> Old Mori-chal Indian Reserve and others <u>Possible actors to participate</u> <u>about</u> THIS Guaviare Governorate CDA

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		participants in entrepreneurship processes and constitution of companies or community associations, provide support for creation and constitution	Number of alliances created with public and/or private entities		
		Strengthening tourist inns: Considers the construction of infrastructure	<u>Supports</u> Documents for the constitution of enterprises and/or associations		
		ture to carry out ecotourism activities or provide associated services, adaptation of trails and spaces to carry out wildlife sightings, acquisition of supplies and equipment required to provide the services	Tourist plans Articles of incorporation of companies or associations Construction plans Photographic records Contracts signed		
		Design of communications plan: Dissemination of ecotourism activities, schedules, services to be provided (lodging, food, tourist guide) at the local, regional and national level through the media	Communications plan Delivery records		
		massive			
		Implementation of the tourist plan: Once the alliances and communication channels with others actors involved, begin the provision of the services to be offered, carrying out periodic monitoring of the			

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		results to improve the process and quality of this			
Sustainable forestry use	Generate opportunities for sustainable economic growth sustainable from forestry exploitation	Feasibility study: will be carried out based on pilot projects, in order to determine the viability of productive initiatives from the economic, technical and environmental perspective, their productivity and the needs of the market Definition of areas to intervene: Use of technological, technical and territorial criteria to specify suitable priority areas, without incurring deforestation or forest degradation Forest inventory: It is the first stage for the formulation of the forest management plan that is intended to be carried out in the territory. Installation and rotation of timber crops: In the initial stage, extensions of the territory will be available for planting and maintaining the crop by local labor, without incurring deforestation of conserved areas Training and certifications in good forestry and environmental practices:	Indicators Total number of people benefited Number of women benefited Number of elements, equipment or inputs purchased Number of equipment intervened Number of local labor jobs generated Total number of individuals planted Total number of people trained Number of nurseries achieved Hectares intervened in productive systems Supports Forest management plans Use plans Attachments of procedures	Yearly	Direct actors Old Mori-chal Indian Reserve and others Possible actors to participate <u>about</u> THIS Guaviare Governorate CDA

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		Training the community in associative, administrative and productive processes and in improving practices, so that forestry production and extraction of derivatives meet quality and safety requirements and is competitive in the markets.	Permits granted by environmental authorities		
			Resolution act of the authorities		
			Registration certificate at the window		
			Transformation center design plans		
		Preparation of the Ma- Plan Forest nexus: According to the forest inventory re-collected, the PMF will be established as an instrument technical development in the forestry use of the land thorium and basic guidelines for sowing and commercialization of timber and non-timber resources in the future	Contracts signed		
			Periodic monitoring reports		
			Delivery records		
		Business Window Registration Greens: To have technical support, evaluation of progress and commitments by the			
		Environmental Authority, projects will be registered through the entry window. tity			
		Transformation and marketing of products: This activity includes both the acquisition of supplies and equipment necessary for the transformation activities, the adaptation of the			

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		spaces to be used, as well as the definition of market chains for commercialization, the training of participating residents and the implementation			
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Source: YAWI IIPANA REDD+ Group Project

In addition to the previously presented monitoring plan, a schedule is established for the activities of the agreed lines of action during the project accreditation period along with the activities carried out by the indigenous reservation during the retroactivity period (01/01/ 2016 – 12/31/2019).

Table 64. Schedule Activities accreditation period of the Grouped Project RESPONSE IIPANA REDD+

Activity	Underactivity	Years																							
LINES OF ACTION OF THE MONITORING REPORT																									
Formulation of the Life Plan of the Old Morichal Indigenous Res-guard, Santa Rosa, Cerro cocuy, Santa Cruz, Caño Danta et al.	Approach and prior consultation phase																								
	Sensitization phase																								
	Self-diagnosis and characterization phase																								
	Thematic axes construction phase																								
	Retrospective and prospective phase																								
	Approval phase																								
	Support phase for productive initiatives																								
	Nursery project implementation phase																								
Implementation of thematic axis of Territory and Environment – Life Plan	Incorporation of good practices in the use of traditional farms																								
	Recovery of the techniques used ancestrally to guarantee the management and recovery of the spaces destined for farms																								
	Recovery of the traditional knowledge of the Puinave and Curipaco peoples in native medicinal plants																								
	Recovery of traditional cultural practices of the Puinave and Curipaco peoples in terms of native games																								

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[illegible]

Grouped Project FAST IIPANA REDD+

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Grouped Project FAST IIPANA REDD+

[illegible]

Grouped Project FAST IIPANA REDD+

[illegible]

Thus, the Monitoring Report document describes the activities associated with monitoring coverage for the period 01/01/2016 to 01/01/2019 for both instances, clarifying that the two instances participate in the validation process, however The verification process applies only to the first, since the activities carried out in the areas of the second instance were verified and the resulting credits have already been canceled (annex 10 and 28a, 28b, 28c).

10.2 Monitoring of GHG emissions and removals or reductions of GHG emissions in the scenario project

The monitoring of the data, variables and parameters important for the quantification of project emissions and emissions reduction, both at the baseline and during the monitoring period of the YAAWI IIPANA REDD+ Grouped Project, will be carried out as follows:

Table 65. Monitoring Plan data, PRR-GHG variables and parameters of baseline and monitoring period

Variable / data / Parameter AdefEt , h	
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	Area effectively deforested in year t and stratum h of the deforestation segment.
Unit	ha
Data source	THE IDEA OF SMBYC
Criterion	NREF Colombia 2019 application
measuring tool	GIS Tools
Value applied	Baseline 2005 – 2014 RR: 122,358 First instance AP verification: 339 First instance verification CF: 283
Justification	Ex ante evaluation to determine the baseline Ex post evaluation in monitoring for discount on the estimated baseline.
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	Adjusted to NREF

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Responsible	BIOFIX – Project Management
Recording or measurement results	See applied value and Annex 13
Relevant measurement information	N/A
Data Purpose	Projection of the deforestation rate and estimation of the reduction of effective emissions
QA/QC procedure	Analysis of the quality of the geospatial information on deforestation coming from IDEAM and purifying it to the project area.
Comments	No comment

Variable / data / Parameter	AdegEt, K
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	Area effectively degraded in year t and stratum k of the degradation segment.
Unit	ha
Data source	IDEAM
Criterion	Estimation of forest degradation in Colombia through a fragmentation analysis (IDEAM, 2018)
measuring tool	GIS Tool
Value applied	Baseline 2005 – 2014 RR: Primary degradation 50; secondary degradation 369 Verification instance 1 2016 – 2019 AP: Primary degradation 3; secondary degradation 26
Justification	Ex ante evaluation to determine the baseline Ex post evaluation in monitoring for discount on the estimated baseline.
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	5% Adjusted to IDEAM, 2018
Responsible	BIOFIX – Project Management
Recording or measurement results	See applied value and Annex 13
Relevant measurement information	N/A
Data Purpose	Projection of the degradation rate and estimation of the reduction of effective emissions
QA/QC procedure	Analysis of the quality of forest/non-forest geospatial information and coverage from IDEAM and complemented by project management followed by the purification of information for the project area.
Comments	No comment

Variable / data / Parameter	BaarcETx,p
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later

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Description	Tree and non-tree aerial biomass at the time of Tx monitoring of stratum p effectively implemented from the reserve increase segment.
Unit	tCO2
Data source	NREF, IDEA
Criterion	Update of reservoir factors due to update of the NREF for Colombia
measuring tool	NREF
Value applied	Deforestation: Baseline 2005 – 2014 ex ante: 444.4 Baseline 2005 – 2014 ex post: 416.4 Degradation: Baseline 2005 – 2014: 258
Justification	The values of the NREF 2019 are used in accordance with article 41 of resolution 1447 of 2018, for the calculation of the reduction of emissions projected in the baseline and the monitoring period.
Frequency	Indeterminate: every time the NREF is updated
Calculation methodology	SMBYC IDEA
Uncertainty	Adjusted to NREF
Responsible	BIOFIX – Project Management in the application; IDEAM in the update
Recording or measurement results	See applied value and Annex 13
Relevant measurement information	For forest degradation an additional procedure is used see comments.
Data Purpose	Calculation of total carbon in the project area.
QA/QC procedure	Application of the most updated NREF data for Colombia on the basis of PRR-GHG emissions reduction calculations according to the scale level of the information source (life zone, biome)
Comments	For forest degradation, the aerial biomass of the core, perforated and patch classes is determined in order to carry out the differentiated estimation of primary and secondary degradation. For this, the relationship factor between aerial and underground biomass is used with the values of the NREF for the Amazon.

Variable / data / Parameter	BsarcETx.p
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	Underground biomass at the time of Tx monitoring of stratum p effectively implemented from the carbon reserve increase segment.
Unit	tCO2
Data source	NREF, IDEA

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Criterion	Update of reservoir factors due to update of the NREF for Colombia
measuring tool	NREF
Value applied	Baseline 2005 – 2014 ex ante: 99.0 Baseline 2005 – 2014 ex post: 71.4 Degradation: Baseline 2005 – 2014: 57
Justification	The values of the NREF 2019 are used in accordance with article 41 of resolution 1447 of 2018, for the calculation of the reduction of emissions projected in the baseline and the monitoring period.
Frequency	Indeterminate: every time the NREF is updated
Calculation methodology	SMBYC IDEA
Uncertainty	Adjusted to NREF
Responsible	BIOFIX – Project Management in the application; IDEAM in the update
Recording or measurement results	See applied value and Annex 13
Relevant measurement information	N/A
Data Purpose	Calculation of total carbon in the project area.
QA/QC procedure	Application of the most updated NREF data for Colombia on the basis of PRR-GHG emissions reduction calculations according to the scale level of the information source (life zone, biome).
Comments	No comment

Variable / data / Parameter	COSETx,p
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	Soil organic carbon at the time of Tx monitoring of the p stratum effectively implemented from the carbon stock increase segment.
Unit	tCO2
Data source	NREF, IDEA
Criterion	Update of reservoir factors by updating the NREF for Colombia.
measuring tool	NREF
Value applied	Deforestation: Baseline 2005 – 2014 ex ante: 13.6 Baseline 2005 – 2014 ex post: 11.3
Justification	The values of the NREF 2019 are used in accordance with article 41 of resolution 1447 of 2018, for the calculation of the reduction of emissions projected in the baseline and the monitoring period.

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Frequency	Indeterminate: every time the NREF is updated
Calculation methodology	SMBYC IDEA
Uncertainty	Adjusted to NREF
Responsible	BIOFIX – Project Management in the application; IDEAM in the update
Recording or measurement results	See applied value and Annex 13.
Relevant measurement information	N/A
Data Purpose	Calculation of total carbon in the project area.
QA/QC procedure	Application of the most updated NREF data for Colombia on the basis of PRR-GHG emissions reduction calculations according to the scale level of the information source (life zone, biome).
Comments	No comment

Variable / data / Parameter	ECO2defydeg,Tx
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	Emissions from deforestation and degradation estimated in the baseline and actually occurred in all strata of the deforestation and degradation segment in the analysis period Tx.
Unit	tCO ₂
Data source	NREF, IDEAM and processing by BIOFIX Quantification of
Criterion	emissions from deforestation and degradation identified in the ex post analysis.
measuring tool	GIS Tools and Calculation Base
Value applied	Deforestation: Baseline 2005 – 2014: 0 Verification instance 1 2016 – 2019: 126,797 Degradation: Baseline 2005 – 2014: 0 Verification instance 1 2016 – 2019: 507
Justification	Determination of emissions generated by deforestation and forest degradation in each of the analysis periods.
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	Adjusted the cartographic information provided by SMBYC of IDEAM
Responsible	BIOFIX – Project Management in the application; IDEAM in the generation of primary information
Recording or measurement results	See applied value and Annex 13

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Relevant measurement information	For forest degradation, a 10% increase in emissions in the leak belt area due to the initiative's activities is estimated for the baseline.
Data Purpose	Calculation of GHG emissions from deforestation and forest degradation Product of the
QA/QC procedure	subtraction of the payment by results for deforestation and degradation from the baseline and the emissions determined after the ex post evaluation carried out by the BIOFIX project management, reviewing that it be with the NREF and the most up-to-date official information.
Comments	Emission values are included, project emissions and emissions from leaks. If an increase in GHG emissions other than CO2 occurs, it must be quantified in future monitoring.

Variable / data / Parameter	METx
Measurement date	Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	Effective mitigation achieved by the project during the reporting period x for deforestation and forest degradation activities.
Unit	tCO2
Data source	BIOFIX determines it from the values reported by the SMBYC of the IDEAM
Criterion	Quantification of the total payment for results of avoided deforestation and degradation.
measuring tool	Calculation base and GIS Tools
Value applied	Deforestation: Verification instance 1 2016 – 2019: 2,431,918 Degradation: Verification instance 1 2016 – 2019: 27,098
Justification	Quantifying emissions reductions
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	Adjusted to NREF
Responsible	BIOFIX
Recording or measurement results	See applied value and Annex 13
Relevant measurement information	N/A
Data Purpose	Calculation of net reduced emissions.
QA/QC procedure	Product of the subtraction of payment by results for deforestation and degradation of the baseline and emissions determined after the ex post evaluation carried out by the BIOFIX project management, reviewing that it is with the NREF and official information more updated.

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Comments	No comment
Variable / data / Parameter	F,defydeg,Tx
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	deforestation and degradation in the leakage belt estimated in the baseline and actually occurred in all strata of the deforestation and degradation segment in the analysis period Tx.
Unit	ha
Data source	NREF, IDEAM and processing by BIOFIX Quantification of
Criterion	leaks due to deforestation and degradation identified in the ex post analysis.
measuring tool	GIS Tools and Calculation Base
Value applied	Deforestation: Baseline instance 1 2016 – 2019 ex - ante: 616 Verification instance 1 2016 – 2019 ex-post: 283 Degradation: Baseline instance 1 2016 – 2019 ex - ante: 0 Verification instance 1 2016 – 2019 ex-post: 2
Justification	Quantification of emissions in the leak belt to discount the estimates of the baseline and the monitoring period.
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	Adjusted the cartographic information provided by SMByC of IDEAM
Responsible	BIOFIX – Project Management in the application; IDEAM in the generation of primary information
Recording or measurement results	See applied value and Annex 13
Relevant measurement information	To quantify emissions from leaks in tons of CO ₂ eq, a value of 16% assumed by the project is applied for displacement of emissions caused by the project, given that it implements management activities in the lines of action in compliance with the provisions of the resolution 1447 of 2018. And the remaining 85% of the deforestation and degradation in the leak belt is assumed to come from actors and drivers external to the project area.
Data Purpose	Calculation of GHG emissions from deforestation and forest degradation in the leak belt for discounting the baseline and monitoring period.
QA/QC procedure	Product of the subtraction of payment by results for deforestation and degradation of the baseline and emissions determined after the ex post evaluation carried out by the BIOFIX project management, reviewing that it is with the NREF and official information more updated.

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Comments	No comment
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Variable / data / Parameter	SIG09
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	GIS layer with the areas effectively deforested during the reporting period (between Tx-1 and Tx) of the deforestation and forest degradation segment
Unit	N/A
Data source	IDEAM
Criterion	Delimitation of official IDEAM information to the project area.
measuring tool	SAY
Value applied	N/A
Justification	Request for Non-Forest Forest maps from IDEAM for the use of official national information for ex ante and ex post analyzes of deforestation and loss of cover.
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	Adjusted to NREF
Responsible	BIOFIX from the application, IDEAM from the generation of information
Recording or measurement results	N/A
Relevant measurement information	N/A
Data Purpose	Baseline calculations and effective emissions reduction of the monitoring period
QA/QC procedure	Request for official information to IDEAM and geoprocessing for the project area by the BIOFIX project management.
Comments	For the quantification of the degradation if it is incorporated in the next NREF, it will be necessary to adjust to the methodological processes for GIS analysis recommended by IDEAM. It must be updated each time the baseline is reviewed (at least every 5 years).

Variable / data / Parameter	SIG10
Measurement date	Baseline 2005 – 2014 Verification instance 1 2016 – 2019 Instance 2 Verification 2020-2021 and later
Description	GIS layer with the areas effectively deforested during the reporting period (between Tx-1 and Tx) of the deforestation and forest degradation segment
Unit	N/A

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Data source	IDEAM
Criterion	Delimitation of official IDEAM information to the project area.
measuring tool	SAY
Value applied	N/A
Justification	Request for Non-Forest Forest maps from IDEAM for the use of official national information for ex ante and ex post analyzes of deforestation and loss of cover.
Frequency	Yearly
Calculation methodology	SEARCHED
Uncertainty	Adjusted to NREF
Responsible	BIOFIX from the application, IDEAM from the generation of information
Recording or measurement results	N/A
Relevant measurement information	N/A
Data Purpose	Baseline calculations and effective emissions reduction of the monitoring period
QA/QC procedure	Request for official information to IDEAM and geoprocessing for the project area by the BIOFIX project management.
Comments	For the quantification of the degradation if it is incorporated in the next NREF, it will be necessary to adjust to the methodological processes for GIS analysis recommended by IDEAM. It must be updated each time the baseline is reviewed (at least every 5 years).

Source. Grouped Project FAST IIPANA REDD+

It is important to highlight that within the framework of compliance with Colombian regulations, it is expected to follow the criteria of the Reference Level – NREF, most up-to-date for Colombia. In addition, the monitoring of the variables, data and parameters previously presented will be carried out within the framework of the line of action Program for monitoring and control of deforestation and forest degradation.

11 Information management

The REDD+ project information related to cartography to generate the baseline and project scenarios corresponds to the official data generated by IDEAM, according to a standardized methodology, such as forest surface area and changes for different annual periods. This information generated is evaluated by IDEAM to determine its degree of thematic accuracy and evaluation of uncertainty. For which the IDEAM according to the digital image processing protocol²⁸ and also available in the latest updated NREDD document, a validation process is carried out with different image interpreters and use of information from high resolution images and statistical data. Finally, if necessary, the geographical layers are adjusted until reaching a level of uncertainty and acceptable quality to be published and available to the general public.

Within the framework of the national methodology, uncertainty management is determined by the precision of the maps used to estimate activity data values and the application of discounts on emission factors. For activity data, the accuracy must be greater than 90%. Precision evaluation is carried out through the use of field observations or high-resolution image analysis. For the emission factors, an uncertainty of 10% is accepted for the use of average carbon values (the evaluation must be done per deposit). If the uncertainty is greater than 10%, the lower value of the 95% confidence interval should be applied.

²⁸ https://redd.unfccc.int/files/anexo_a_protocolo_procesamiento_digital.pdf

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13 Document history (PDD)

Version	Date	Comments or changes
1.0	10.02.2023	Initial version of the document.
2.0	05.04.2023	Version after first round of findings.

14 History of the squad

Version	Date	Comments or changes
1.0	11.01.2022	Initial version.
2.0	01.08.2022	Adjustments in content and changes in writing.
2.0.1	12.08.2022	An Excel file is attached for a detailed mitigation report by activity and reservoir.

15 Annex

Attached to the template is the table in an Excel file where you must relate the total and net GHG removals or total and net reductions of GHG emissions from the PMCC and the individual and collective reserve, as well as the summary in section 3.4

Additionally, the list of annexes that is part of the project is mentioned.

Number of Attachment	Description
Annex 1	Award Resolution No. 045 of 1998 RI Morichal
Annex 2	Internal Election Record of RI Legal Representative Morichal
Annex 3	Legal Rep Recognition Certificate - El Retorno Mayor's Office
Annex 4	Certificate to be able to sign projects Rep Legal RI Morichal Resolution
Annex 5	175 of 2019 - Registration ASOMAUCOWOT MinInterior
Annex 6	Acta Asamblea aprobación YAAWI IIPANA REDD+ 151219
Annex 6a	Annex 6a. Meeting Socialization Safeguards YAAWI 20220713
Annex 7	Assembly Minutes construction lines of action 26042022
Annex 8	Free, prior and informed consent RI Morichal Viejo
Annex 9	Yaawii Iipana REDD+ Governance Analysis
Annex 10	Request for cancellation of project registration YAAWI IIPANA PROCLIMA 05052022
Annex 11a	Verification Declaration PY YI AENOR 20201021
Annex 11b	Declaration Validation PY YI AENOR 20201021
Annex 11c	PY YI Proclima certification declaration 20201021
Annex 11d	PDD Baseline Support
Annex 12	RENARE registration support
Annex 13	230210_Quantification_RE_YI_V1
Annex 14	Guaviare Departmental Development Plan 2020-2023
Annex 15	Prerequisites FAST IIPANA REDD+
Annex 16	PMCC Technologies, products and services YAAWI IIPANA REDD+
Annex 16a	Biofix Project Manual
Anexo 17a	Plan de Vida RI Morichal Viejo
Annex 17b	Background Construction Life Plan
Annex 18	Implementación Eje Ambiental PIVI RI MORICHAL
Annex 19	Guaviare 2015 and 2018 furniture
Annex 20	Contract 227 - 2017
Annex 21	Contract 1034 of 2018
Annex 22	Contract 387 of 2019
Annex 23	Cercarbono tool to report contributions to SDG – YAAWI IIPANA
Annex 23b	05.23.22_Evidencia_ODS_102
Annex 24	
Annex 25a	Data and Parameters monitoring report YAAWI IIPANA REDD+
	Cercarbono carbon reserve tool V1

Annex 25b Flowchart of project processes

Annex 25c Process and subprocess characterization policy

Anexo 25d Flujo de caja YAAWI IIPANA V1

Annex 25e Risk of non-permanence - Carbon Reserve V1

Annex 26a DB Monitoring USCUS Activities

Annex 26b DB Monitoring Indicators

28a Biochar Support joint RI Morichal - RNN NUKAK Trade No. 41062022E2004530 **Annexure 27** **Annexure**

project emissions and registration certificate **Annexure 28 b** Historical Transactions

2015 - 2019 REPORT **Annexure 28c** Compiled Withdrawal Verified bonds

2015-2019 **Annexure 29** GDB_FAST IIPANA REDD+_V4 **Annex 30a.** Tables

disaggregation - PDD **Annex 30b.** Tables disaggregation

-MR **Annexure 31** .

Data and Parameters monitoring report YAAWII IIPANA REDD+