

## Conservation and sustainable use of biological diversity in the Caroni river basin of Bolivar state

### Part I: Project Information

**GEF ID**

10971

**Project Type**

FSP

**Type of Trust Fund**

GET

**CBIT/NGI**

CBIT No

NGI No

**Project Title**

Conservation and sustainable use of biological diversity in the Caroni river basin of Bolivar state

**Countries**

Venezuela

**Agency(ies)**

FAO

**Other Executing Partner(s)**

Ministry of Ecosocialism and Popular Power (MINEC)

**Executing Partner Type**

Government

**GEF Focal Area**

Biodiversity

**Taxonomy**

Focal Areas, Forest, Forest and Landscape Restoration, Amazon, Biodiversity, Protected Areas and Landscapes, Terrestrial Protected Areas, Community Based Natural Resource Mngt, Mainstreaming, Tourism, Agriculture and agrobiodiversity, Influencing models, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Demonstrate innovative approach, Stakeholders, Civil Society, Academia, Non-Governmental Organization, Community Based Organization, Type of Engagement, Consultation, Information Dissemination, Participation, Communications, Public Campaigns, Awareness Raising, Beneficiaries, Local Communities, Indigenous Peoples, Private Sector, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Women groups, Sex-disaggregated indicators, Gender results areas, Access and control over natural resources, Capacity Development, Participation and leadership, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Knowledge Generation, Learning, Adaptive management, Theory of change, Indicators to measure change, Innovation, Knowledge Exchange

**Sector****Rio Markers****Climate Change Mitigation**

Climate Change Mitigation 1

**Climate Change Adaptation**

Climate Change Adaptation 0

**Duration**

60 In Months

**Agency Fee(\$)**

832,715.00

**Submission Date**

4/11/2022



A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-1-1	GET	4,861,318.00	29,166,600.00
BD-2-7	GET	3,904,100.00	23,425,800.00
Total Project Cost (\$)		8,765,418.00	52,592,400.00

## B. Indicative Project description summary

### Project Objective

Improved sustainable use, biodiversity conservation and provision of ecosystem services, to generate global and local environmental benefits (SDGs 2.4 and 15.4) in the Caroní River basin

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Systemic and institutional capacity for the sustainable management of the multiple-use landscape with a gender and intercultural approach.	Technical Assistance	<p><i>Outcome 1.1</i></p> <p><i>MINEC and other sectoral institutions have implemented instruments that improve their capacity for the effective management of the Caroní River Basin.</i></p> <p><i>GEF Core indicator 1 goal: 7,712,919 hectares of protected areas under improved management</i></p>	<p>Output 1.1.1. Training plan for the development of technical skills of the technical teams of the institutions for the protection of diversity, designed and implemented for decision-making on issues related to integrated landscape management with a gender and intercultural approach.</p> <p>Output 1.1.2 Geospatial and hydro-meteorological information systems for the management, planning, development and monitoring of biodiversity, designed and implemented.</p> <p>Output 1.1.3 Planning tools developed with the integrated vision of institutions, indigenous and local communities that include considerations of biodiversity, ecosystem services, and livelihoods, designed and implemented</p>	GET	2,317,018.00	7,102,720.00

2. Integrated landscape management	Investment	<p><i>Outcome 2.1 MINEC and sectoral institutions at different levels implement coordination and collaboration mechanisms for the management of landscape conservation areas</i></p> <p><i>14,349 ha restored forests and grasslands (11,349 ha management of natural grasslands, 2,000 ha restoration and plant succession, 1,000 ha SFM)</i></p> <p><i>5 Management Plans and Regulations of Use (PORU)</i></p>	<p>Output 2.1.1 Agreed Formulated and implemented Management Plans and Regulations of Use (PORU) agreed to improve the effectiveness in the management of ABRAE (Canaima National Park, Cadena de Tepuis National Monuments, La Paragua Forest Reserve, Ikabarú Hydraulic Reserve, and the southern Bolivar State Protected Zone).</p> <p>Output 2.1.2 Degraded areas identified and restored in the project intervention area.</p> <p>Output 2.1.3 Formulated and presented to institutional actors the Financial Plan for the system of the five protected areas in the Caroní River basin</p> <p>Output 2.1.4. Control and surveillance system developed and implemented</p>	GET	2,500,000.00	20,045,872.00
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3. Diversification of livelihoods in indigenous and Creole communities for sustainability in landscape management	Technical Assistance	<p><i>Outcome 3.1 Indigenous communities and local communities have implemented resilient, diversified and sustainable livelihoods around ecosystem services in the Caroní River basin</i></p> <p><i>GEF Core indicator 11 goal:</i></p> <p><i>29,917 women and 32,603 beneficiaries.</i></p> <p><i>At least 1 pilot project of socio-productive co-management in protected areas</i></p>	<p>Output 3.1.1 Investment and training plan for the promotion of economic activities in ecotourism, added value of wood and non-wood forest products and family farming, identified, selected and implemented.</p> <p>Output 3.1.2 Program designed and implemented towards the sustainable use of wildlife to reduce pressure on native species for traditional consumption</p> <p>Output 3.1.3 Indigenous communities located in the project area have socio-productive co-management in protected areas</p>	GET	2,594,100.00	18,374,240.00
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4. Monitoring and Evaluation (M&E) based on the principles of adaptive management, delivery of measurable and objectively verifiable results, and dissemination of best practices and systematized lessons learned.	Technical Assistance	<i>Outcome 4.1 Project implementation is supported by a gender and cross-cultural sensitive M&amp;E strategy, based on adaptive management principles, measurable and verifiable results, and dissemination of good practices and systematized lessons learned.</i>	Output 4.1.1 M&E strategy developed with relevant stakeholders for a clear definition of expected results, expected time periods for completion and confirmation by objectively verifiable indicators.  Output 4.1.2 Mid-term review and final evaluation to constructively inform and advice on project implementation, sustainability considerations and the application of adaptation measures, where necessary.	GET	939,000.00	4,614,620.00
Sub Total (\$)					8,350,118.00	50,137,452.00
Project Management Cost (PMC)						
GET					415,300.00	2,454,948.00
Sub Total(\$)					415,300.00	2,454,948.00
Total Project Cost(\$)					8,765,418.00	52,592,400.00

Please provide justification

**C. Indicative sources of Co-financing for the Project by name and by type**

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	National Electric Corporation (CORPOELEC)	Public Investment	Investment mobilized	35,000,000.00
Recipient Country Government	National Parks Institute (INPARQUES)	In-kind	Recurrent expenditures	3,000,000.00
Recipient Country Government	Ministry of People's Power for Eco-socialism (MINEC)	In-kind	Recurrent expenditures	4,092,400.00
Recipient Country Government	Ministry of Popular Power for Indigenous Peoples (MINPPPI)	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	Ministry of People's Power for Water Services (MinAguas)	Public Investment	Investment mobilized	2,000,000.00
Recipient Country Government	People's Ministry of Ecological Mining Development (MIDMED)	In-kind	Recurrent expenditures	3,000,000.00
Other	Venezuelan Institute of Scientific Research (IVIC)	In-kind	Recurrent expenditures	1,000,000.00
Recipient Country Government	Venezuelan Corporation of the state of Guayana (CVG)	Public Investment	Investment mobilized	3,000,000.00
<b>Total Project Cost(\$)</b>				<b>52,592,400.00</b>

**Describe how any "Investment Mobilized" was identified**

- Investment mobilized from CORPOELEC corresponds to public investments in the target landscape in the Socialist Environmental Master Plan for the national electricity sector (PMAS-CEN) 2010-2030 in the environmental area. - The investment mobilized from "MinAguas"(Ministry of Water) is represented by public investments made through plans and projects in the Caroní river basin. - The investment mobilized from CVG comes from public investment in studies and projects as strategic information in the area of engineering for the exploitation and sustainable use of natural resources. CORPOELEC, MinAguas and CVG can assign budget resources to support specific projects, and in this context will provide co-finance for the project that can be considered as Investment Mobilized.

The contribution from MINEC, INPARQUES, IVIC, MIDME and MINPPI, correspond to recurrent expenditures from regular programs with activities that will be reoriented to support the project intervention. As discussed in the preliminary consultations with the institutions, it is expected that most of the investment will be oriented to support activities in components 2 and 3 in field activities, including reforestation, plant nurseries, restoration, vigilance, control and equipment. For components 1 and 4, there will be a contribution in a minor proportion for the design of plans and programs, support capacity building and knowledge exchange. In the case of MINEC and INPARQUES, as entities in charge of ABRAEs, the major investment will be in components 1 and 2, related to institutional strengthening, and MINPPI will contribute mostly to components 2 and 3, related to indigenous peoples programs.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Venezuela	Biodiversity	BD STAR Allocation	8,765,418	832,715	9,598,133.00
Total GEF Resources(\$)					8,765,418.00	832,715.00	9,598,133.00



E. Project Preparation Grant (PPG)  
PPG Required **true**

PPG Amount (\$)				PPG Agency Fee (\$)			
200,000				19,000			
Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Venezuela	Biodiversity	BD STAR Allocation	200,000	19,000	219,000.00
Total Project Costs(\$)					200,000.00	19,000.00	219,000.00

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
7,712,919.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created



Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
0.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
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Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
7,712,919.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Monumento Natural Formaciones de Tepuyes	555705240	Natural Monument or Feature	687,500.00						
Parque Nacional Canaima	61612	National Park	3,000,000.00						
Reserva Forestal La Paragua	10787	Protected area with sustainable use of natural resources	782,000.00						

Reserva Hidráulica Ikabarú	NA	Protected area with sustainable use of natural resources	40,000.00	
Zona Protectora Sur del estado Bolívar	10772	Protected area with sustainable use of natural resources	3,203,419.00	

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
14349.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

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Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1,000.00			

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
13,349.00			

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

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**Indicator 6 Greenhouse Gas Emissions Mitigated**

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	12515921	0	0	0
Expected metric tons of CO <sub>2</sub> e (indirect)	0	0	0	0

**Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector**

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	12,515,921			
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated start year of accounting	2022			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)				
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	29,917			
Male	32,603			
Total	62520	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

**Core Indicator 1 :** The project is located in the Caroní River basin, specifically in the lower and upper sectors of the Paragua river and the middle and upper sectors of the Caroní River (Table 1), which covers an area of 7,900,962 ha, of which 97.62% is under a special administration regime, so 7,712,919 ha are established as a protected land area. It must be noted that the project will also work in restoring areas burned inside the ABRAE. This surface has also been included into Core Indicator 3. "Zona Protectora Sur del estado Bolívar" : It refers to the surface of the South Protective Zone of Bolívar state within the project intervention area. **Core Indicator 6:** Estimated mitigated greenhouse gas emissions using Ex-act tool (Annex F of the Agency Document). **Core Indicator 11 :** The total population in the intervention area according to official figures from the last census (INE 2011) is 62,520 inhabitants, of which 41,391 are local population made up of 19,514 women and 21,877 men and 29,897 are indigenous population made up of 10,403 women and 10,726 men. "Indigenous Population Female/Indigenous Population Male" : Calculated based on the masculinity index in the Indigenous Population: 103,1. (INE2011)



## Part II. Project Justification

### 1a. Project Description

#### 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed

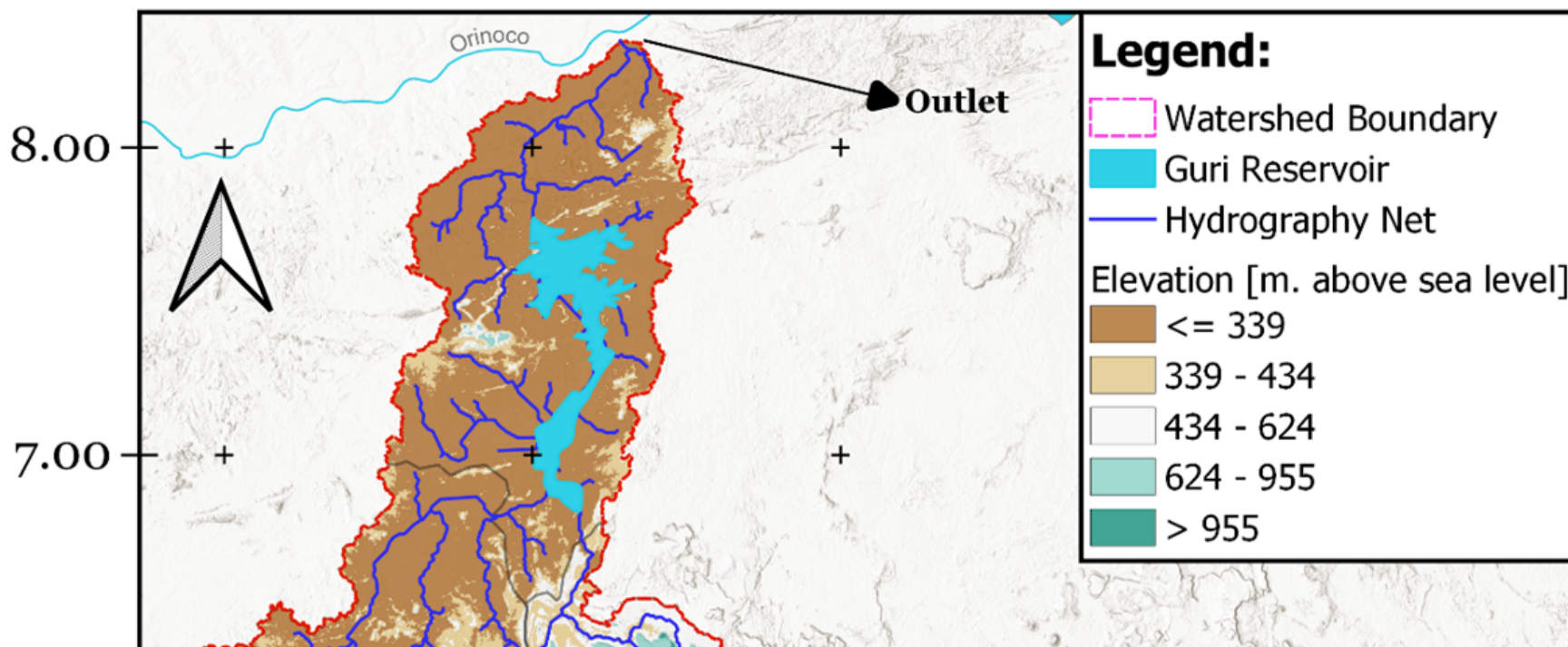
1. Venezuela is one of the seventeen megadiverse countries in the world (CONABIO, 2016), largely due to its position at the intersection of the Amazon, Andes, Caribbean and Guiana biogeographic regions. It ranks fifth in the world in terms of amphibian diversity (Amphibian-Web, 2018), sixth in terms of birds, eighth in terms of mammals and higher plants, and ninth in terms of reptiles (INPARQUES, UNDP, 2008). The levels of endemism are very high, particularly in the case of birds, mammals and invertebrates. The main centers of endemism are the Andes and coastal mountain ranges, the Perijá Mountains and the Guayana Massif.
2. The Guiana Massif is one of the most pristine and biodiverse areas in Venezuela due to the fact that 80% of its forests are almost intact. It has abundant freshwater resources, which is why it is considered a sub region with unique characteristics and one of the last reservoirs of the American Tropics (Señaris and Lasso, 2018) (GEF Small Grants Program, n.d.). This craton emerges from the Orinoco and Guaviare rivers to the north and northwest, the Amazon River to the south, the Atlantic Ocean to the east, the Japurá-Caquetá River to the southwest, and the Chiribiquete mountain range and the Eastern Plains of Colombia to the west, including the La Macarena mountain range. These conditions have made it the possessor of a great variety of terrestrial and freshwater ecosystems (it includes part of two large basins, Amazon and Orinoco), which harbor a great biodiversity and, at the same time, a high level of endemism associated mainly with the mountains and other rocky outcrops of the region (Señaris and Lasso, 2018). The Guiana Shield extends over 2.5 million km<sup>2</sup>, approximately 14% of South America. It has a Precambrian geological age estimated at more than 1 billion years. Throughout its formation process, different phases and orogenic, plutonic, volcanic, sedimentary and intrusive events have occurred. This has given rise to majestic sandstone mountains with vertical walls and flat summits, commonly known as tepuis. In the tepui peaks and under climatic conditions typical of the highlands (greater than 2000 msnm) the degree of exclusivity of flora and fauna can reach between 35-40% i.e., they are centers of greater endemism and a melting pot of diversification in the Neotropics (Señaris and Lasso, 2018).
3. Within the Guiana Shield, the Caroní River is the most important tributary of the Orinoco River. It rises to the west of Roraima under the name of Kukenán, plunging over a waterfall with a free fall of 674 m (the tenth largest in the world). It flows between Puerto Ordaz and San Félix, after a distance of 925 km and draining a basin with an area of 92,169 km<sup>2</sup> (covering 39% of Bolívar State, 10% of the national surface area and 9% of the Orinoco basin). The basin receives rainfall between 2,900 and 6,000 mm per year. It is the second largest river after the Orinoco and flows between gorges and tepuis, causing innumerable waterfalls, such as the Angel Falls, the highest in the world (almost 1000 m of free fall), the Kukenán Falls, as well as many others, of lesser height but with considerable flow. The Caroní river basin (Figure 1) is divided into the upper, middle and lower Caroní and upper and lower Paragua sectors.
4. The high biological diversity, the strategic production of water and hydroelectric energy, the mineral wealth, the existence of a set of areas legally established for conserving biodiversity at the national and global level, the presence of ancestral indigenous peoples with their traditions and ways of life, as well as local communities mean that the upper and lower Paragua and upper and middle Caroní sectors in the Caroní River basin are considered the priority

landscape for this project (Annex D, Project's conservation targets). The following table shows the total surface area of the sectors of the Caroní River basin to be intervened, which correspond to 7,900,962 ha.

Table 1. Sectors of the Caroni river basin to be intervened by the project.

Watershed sector	Surface area (Ha)	% of total basin area
Upper" Caroní" River	2,450,688	26.59
Middle Caroní River	1,743,383	18.91
Upper Paragua River	2,215,464	24.04
Middle of the Paragua River	1,491,427	16.18
Total	7,900,962	85.72

Source: CVG 2004.



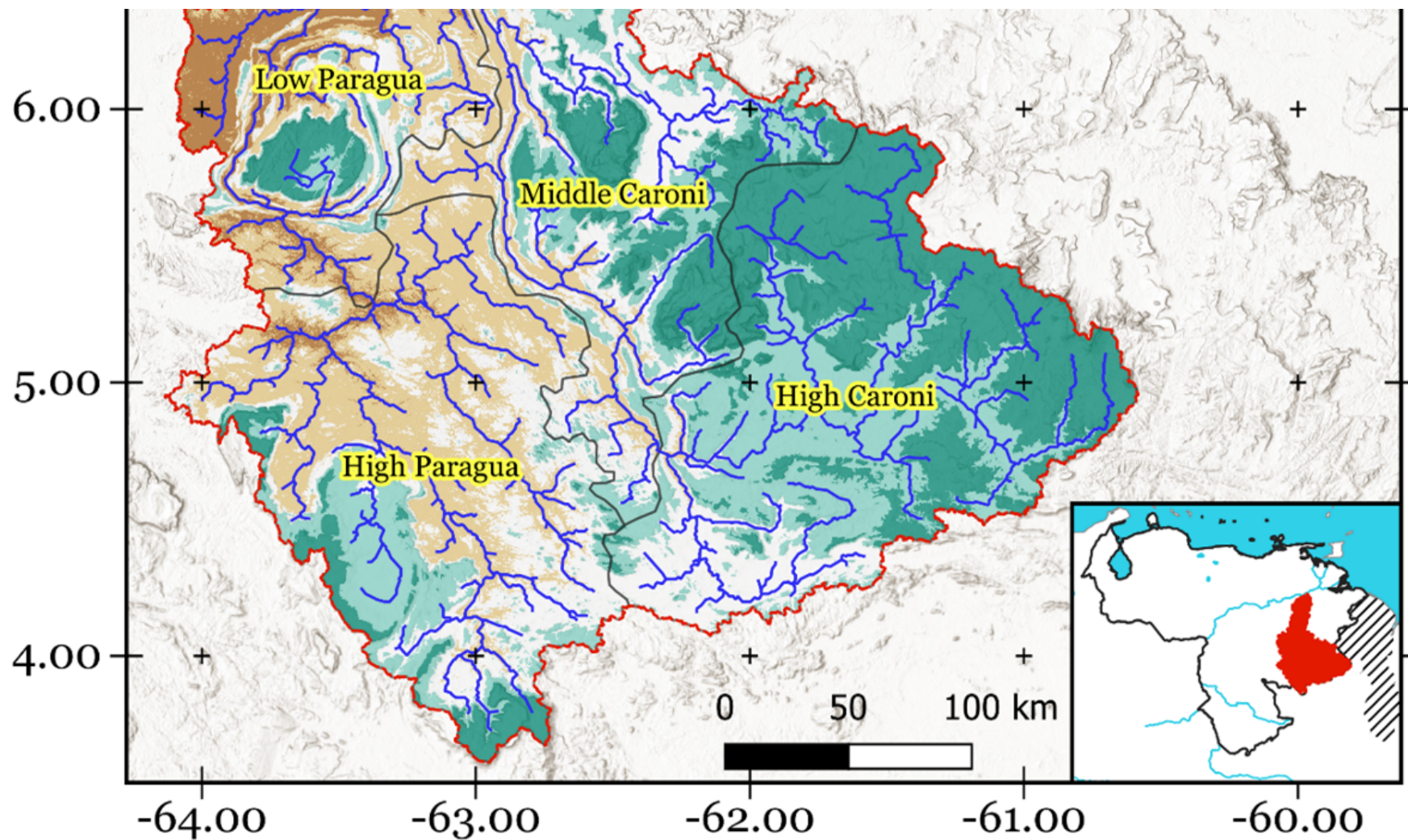
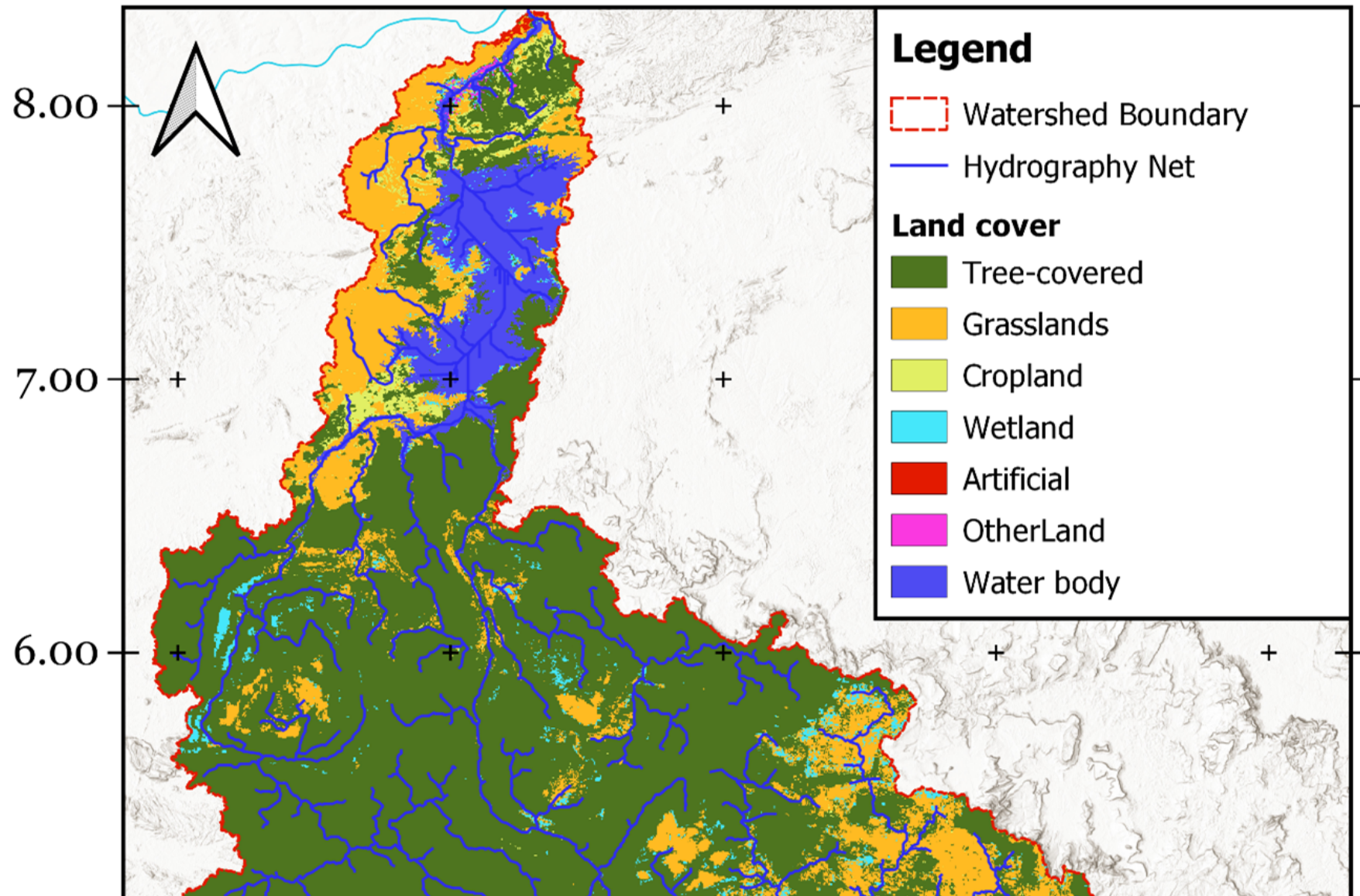


Figure 1. Hydrographic system of the Caroní River<sup>[1]</sup>.

5. The sectors of the Caroní River basin to be intervened are located in a natural region whose main geomorphological characteristic is the predominance of high plateaus, tepuis, foothills, hills, valleys and peniplains. It includes the Lema mountain range, the eastern and western tepuis, the Gran Sabana and the Pacaraima mountain range on the border with Brazil. The tepuis are steep, tabular plateaus with steep, abrupt and very dissected walls. The Roraima and Eruoda have altitudes of over 2,700 msnm. The process of topographic inversion made the evolution of the topography of this landscape, where the



anticlines of the rocks of the Roraima group, formed by fractured folds and exposed to climatic factors, suffered an intense differential erosion during millions of years. This ended up in forming depressions like the Gran Sabana around the remaining synclines that formed the plateaus or tepuis (Schubert and Huber, op.cit).



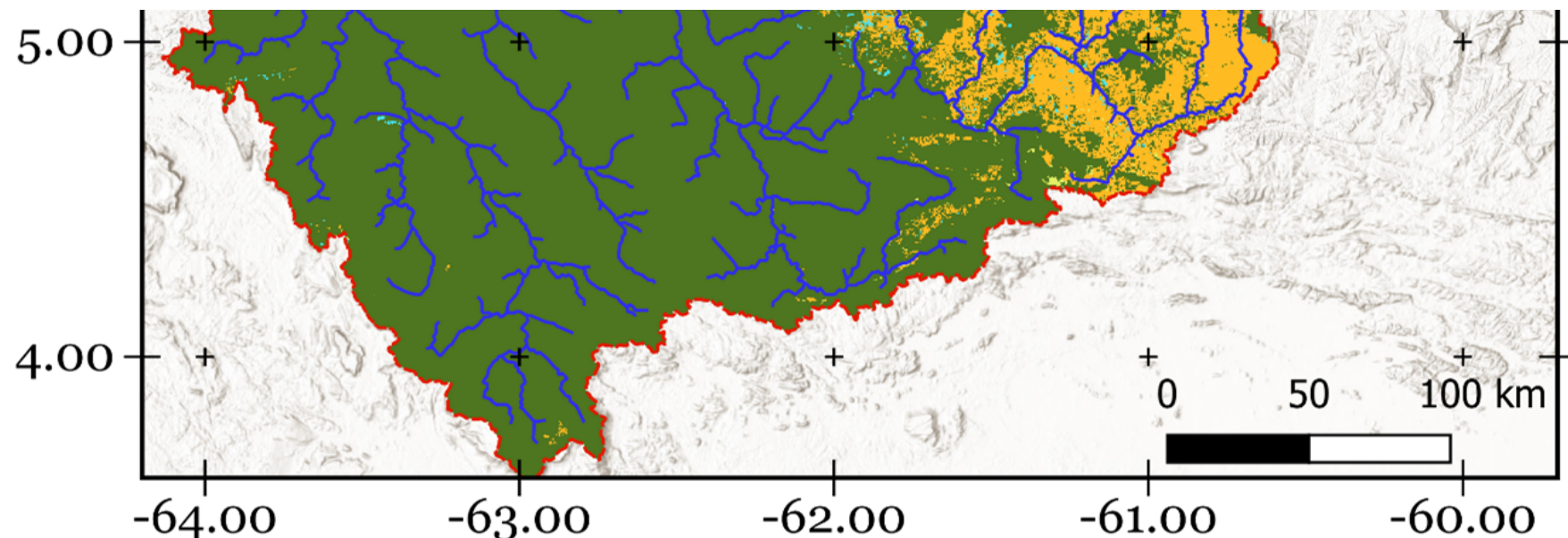


Figure 2. Land cover and land use map for the Caroní River basin in 2019 [2].

6. With respect to the Gran Sabana, this is a high plateau of extensive peneplain located in the eastern sector of the high Caroní, up to the border area with the area in claim of the Guayana Esequiba. It covers an area of approximately 18,000 km<sup>2</sup> from the Lema mountain range in the north to the Pacaraima mountain range in the south, with the eastern chain of tepuis to the east. Undulating plains predominate, interrupted by hills and small valleys through which rivers flow over hard sandstone rocks.

7. In the peneplain of the upper Paragua, the predominant relief is hillocks and low hills, found in the middle basins of the Caura, Paragua and Caroní rivers. Dense forests and an average annual rainfall of 4,000 mm predominate. There are peneplains, tepuis, waterfalls, witness hills, hills and hills in the form of mountains. In this natural region there are scenic beauties of extraordinary value that must be preserved for future generations, such as the natural monuments Cerro Ichún and Guanacoco, Guaiquinima, the western sector of Canaima National Park and the southern Protected Zone of Bolívar State.

8. The predominant vegetation in the area is evergreen, tall and dense humid forests, with trees that can reach 25-30 meters in height. Some of the species that make up these forests are caraño (*Tetragastris panamensis*), purguillo (*Pouteria egregia*), majagua (*Sterculia pruriens*), azucarito blanco or caraño Rosado (*Protium neglectum*) and cacho (*Chaetocarpus shomburgkianus*). In the semi-deciduous forests, individuals reach between 18 and 20 meters, and the following species stand out: canjilón (*Tetragastris panamensis*), purguo (*Manilcara bidentata*) and algarrobo (*Hymenaea courbaril*). Tall, dense cloud forests occur along the northern slopes of the Sierra de Lema. The medium forests have heights between 15 and 20 meters, are floristically very diverse and multilayered, and the low forests reach up to 15 meters in height (CVG -Edelca, op.cit.). In the high plateaus and tepuis, the vegetation consists of extensive evergreen hillside forests, shrub lands and grasslands with a very high endemism, especially on the tepui peaks, where the type of vegetation is unique on Earth, formed in some cases by grasses such as tubiform bromeliads and dwarf groves (Otto Huber, 2007).

9. In the Gran Sabana, the predominant vegetation is open savannah, interrupted by gallery forests and morichales. The most predominant species in this herbaceous ecosystem are grasses, which cover the undulating landscape of the high plateau between the Lema mountain range to the north and the Pacaraima mountain range on the Brazilian border to the south like green carpets (Schubert and Huber, op. cit.). In some sectors of the Gran Sabana there are morichal formations (*Mauritia flexuosa*) along the watercourses in soils rich in organic matter, which are of great scenic attraction in the savanna landscape.
10. In the 1990s, 9,411 species of the flora of Venezuelan Guayana were identified in the Guiana Shield, according to studies by Berry et al (1995). However, over the years this biodiversity has been threatened by different factors, including climate change and the fragility of the ecosystem, habitat destruction due to anthropogenic activities such as tourism, mining, agricultural and livestock activities, logging, fires, construction, illegal trade of species of ornamental value, as well as for traditional medicine and handicrafts. Table 2 below shows the main endangered flora species.

Table 2. Threatened plant species that inhabit the intervention area and their degree of threat at national and international level.

Common name	Scientific name	Degree of threat in Venezuela
Orchid	<i>Cattleya jenmanii</i>	Critical Danger
Orchid	<i>Cattleya lawrenceana</i>	Critical Danger
Sub-shrub of simple leaves	<i>Piper sabanaense</i>	Critical Danger
Terrestrial Bromeliad	<i>Aechmea bauxilumii</i>	Critical Danger
Terrestrial grass	<i>Philodendron dunstervilleorum</i>	Critical Danger
Mureillo, Salado morado o Moralillo	<i>Erismia uncinatum</i>	Vulnerable
Terrestrial grass	<i>Guzmania retusa</i>	Vulnerable
Orchid	<i>Clowesia warczewitzii</i>	Vulnerable
Orchid	<i>Phragmipedium lindleyanum</i>	Vulnerable

Sources: Environmental NGO Provita 2020.

11. The high biological diversity of the region allows the presence of species of high economic and hunting value such as birds, mammals, reptiles and amphibians, as well as fish. Some of the animal species that inhabit the forests, shrub lands and savannas include (Aguilera, 2007): mammals: yellowtail (*Didelphis marsupials*), armadillo (*Dasypus novemcinctus*), giant armadillo (*Priodontes maximus*) spider monkey (*Alouatta seniculus*), capuchin monkey (*Cebus olivaceus*), tapir (*Tapirus terrestris*), peccary (*Pecari tajacu*), bush dog (*Speothos venaticus*) anteater (*Myrmecophaga tridactyla*), deer ("Mazama Americana"), porcupine (*Coendou prehensilis*), puma (*Puma concolor*), ocelot (*Leopardus tigrinus*), ocelot (*Leopardus wiedii*) jaguar (*Pantera onca*), cunaguaro (*Leopardus pardalis*), Roraima mouse (*Podoxymis roraimae*) paca (*Agouti paca*); reptiles: mapanare (*Bothrops* spp. ), rattlesnake (*Crotalus*

*durissus*), tragavenado (*Boa constrictor*), water snakes (*Eunectes murinus*), lizards (*Arthrosaura*, *Prionodactylus*, *Crocodilurus*, *Kentropyx*, *Uranoscodon*, *Plica*), turtles (*Podocnemis*, *Peltocephalus*, *Geochelone*) iguana (*Iguana iguana*); amphibians: toads (*Bufo margaritifera*, *Metaphryniscus sosae*, *Oreophrynella vasquesi*, *O. nigra* and *O. cryptica*), frogs (*Colostethus Roraima*, *C. guayanensis*, *C. parimae*, *C. tepuyensis*)

12. In relation to the avifauna, 44 endemic species are reported, among which are (Aguilera, op.cit. ): poncha (*Cripturellus ptaritepuí*), Roraima water thrush (*Caprimulgus whitelyi*), saber-winged. (*Campylopterus hyperythrus*), tepuy hummingbird (*Polytmus milleri*), gargantiblanco tico-tico (*Automolus roraimae*), choca (*Thamnophilus insignis*), yapacana ant-eater (*Myrmeciza disdisjuncta*), russet ibis (*Todirostrum russatum*), flycatcher (*Phylloscartes chapmani* and *P. nigrifrons*), giant boboto (*Elaenia dayi*), seedbed (*Emberizoides duidae*), harpy eagle (*Harpia harpyja*).

Table 3. Threatened fauna species that inhabit the intervention area and their degree of threat at national and international level.

Common name	Scientific name	Degree of threat in Venezuela	Degree of threat at international level
Armadillo	<i>Priodontes maximus</i>	At risk	At risk
Anteater	<i>Myrmecophaga tridactyla</i>	Vulnerable	Vulnerable
Tapir	<i>Tapirus terrestres</i>	Vulnerable	Vulnerable
Mountain dog	<i>Speothos venaticus</i>	Vulnerable	Vulnerable
Tigrillo or bush cat	<i>Leopardus tigrinus</i>	Vulnerable	Near threatened
Ocelot	<i>Leopardus pardalis</i>	Vulnerable	Not reported
"Tigrito manigordo"	<i>Leopardus wiedii</i>	Vulnerable	Not reported
Jaguar	<i>Panthera onca</i>	Vulnerable	Lower risk, almost threatened
Roraima mouse	<i>Podoxymis roraimae</i>	Lower risk, lower concern	Not reported
"Coligruesa" weasel	<i>Lutreolina crassicaudata</i>	Lower risk, lower concern	Not reported
Harpy eagle	<i>Harpia harpyja</i>	Vulnerable	Lower risk

Sources: Cat Specialist Group (2001), Downer, C. & Castellanos, A. (2001), Edentate Specialist Group (1996), Rodríguez y Rojas-Suárez (1999).

13. As for forest resources, 80% of Bolívar State's territory is covered by forest vegetation, which gives it a very high potential for forest resources. Commercial timber harvesting is done through forestry concessions granted by the national government. The La Paragua forest reserve is located in this sector and covers 782,000 ha. This area, like others, is subject to land-use conflicts and permanent pressure from agricultural activities, as well as conflicts with mining activities, given the existence of the green rock belt and its high gold potential. This, together with the long period of time that has passed without planning instruments and management, monitoring and control actions, have been part of the cause of the anarchic growth of agricultural activities and illegal mining, and the consequent environmental impacts generated in these areas.
14. The characteristic waterfalls of the basin prevent the Caroní River from functioning as a means of communication. However, due to its abundant flow (with an annual average of 4,850 m<sup>3</sup>/s), its settlement on a rocky and compact soil belonging to the Guayana massif, which supports large structures and its steep slope, it is widely used for hydroelectric power generation with 5 power plants along its course: Macagua I, II and III, near its mouth in the Orinoco, Caruachi about 30 km upstream, and, finally, the Guri dam, in the Necoima or Necuima canyon, almost 80 km from Puerto Ordaz (Sánchez 2013). The latter dam has generated the Guri reservoir, with an area of about 4,000 km<sup>2</sup>, in the middle part of the Caroní River. The Guri hydroelectric plant has a generating capacity of about 10 million kW, the third largest in the world (CVG 2004) and provides 72% of the country's electricity.
15. These sectors are also home to one of the oldest geological formations on the planet, whose genesis gave rise to a high potential for mining resources such as iron, bauxite, gold-bearing placers, diamonds, manganese, kaolin, dolomite, titanium, aluminum, quartz, rare earths, among other minerals. The auriferous placers and veins are distributed in the same northern pen plain in the zones of El Callao, Imataca, Las Claritas (green rock belt), and in general in the basins of the Caroní and Cuyuní rivers. Diamondiferous deposits are distributed in the Caroní-Paragua river basins (Ikabarú, Urimán, San Salvador de Paúl), in the Alto Paragua peneplain, Cuyuní and Cuchivero (Guaniamo sub-basin) in the northwestern piedmont. Traditional and artisanal pan and suruca mining have exploited precious minerals such as gold and diamonds, but in recent years, there has been a proliferation of illegal mining using technologies and substances that are highly degrading to the environment, such as: hydraulic monitors and mercury for gold recovery. This situation has occurred despite the fact that the entire region is legally protected.
16. The generic term that includes all protected areas in Venezuela and is established in the Organic Law for Spatial Planning (1983), is "Areas under Special Administration Regime" (ABRAE), which are defined as "geographical spaces, sites and elements of the environment with unique biophysical characteristics or with other socio-cultural qualities and potentialities, which deserve to receive from the State an effective and permanent protection under a regime of administration that guarantees the physical integrity without diminishing its values, through a use consistent with those objectives of protection and management appropriate to those characteristics".
17. ABRAE are grouped into three general categories (see Table 4), ranging from those focused on economic development to those aimed strictly at protection:
- Strictly protected, scientific, educational and recreational areas: areas of maximum preservation of national and international importance in terms of fauna, flora and/or scenic beauty and/or that constitute a representative sample of particular ecosystems that deserve to be preserved for future generations.
  - Protection areas with regulated use: areas of less strict protection in which certain activities such as fishing and tourism are allowed on a limited basis.
  - Areas with productive or geostrategic objectives: areas of importance for issues such as national security, agricultural production and forestry.



18. The national ABRAE system is composed of 20 categories, six of which are of particular importance for biodiversity conservation: national parks, natural monuments, wildlife refuges, wildlife sanctuaries, biosphere reserves, and forest reserves. In the last two decades, efforts have been made to incorporate more territories into this special management system.

Table 4. General ABRAE categories

Generic category	Specific category
Areas of strict protection, scientific, educational and recreational	Natural Monuments (MN)
	National Parks (NP)
	Wildlife Refuges (RFS)
	Wildlife Sanctuaries (SFS)
Protected areas with regulated use regulated use	Protected Areas (PA)
	Biosphere Reserves (BR)
	National Hydrological Reserves (NHR)
	Wildlife Reserves (REFS)
	Critical Treatment Priority Areas (CTPAs)
	Public Works Protection Areas (APOP)
	Reservation Zones for the Construction of Dams and Reservoirs (ZRCPE)
	Environmental Protection and Restoration Areas (APRAs)
	Zones of Tourist Interest (ZIT)
	Historical and Cultural Heritage Sites (SPHC)
Areas with productive or geostrategic geostrategic objectives	Forest Reserves (FR)
	Agricultural Development Zones (ZAA)
	Deep Water Marine Coastal Areas (CMAP)
	Rural Integrated Development Areas (ARDI)
	Security Zone (ZS)
	Border Security Zone (FSZ)

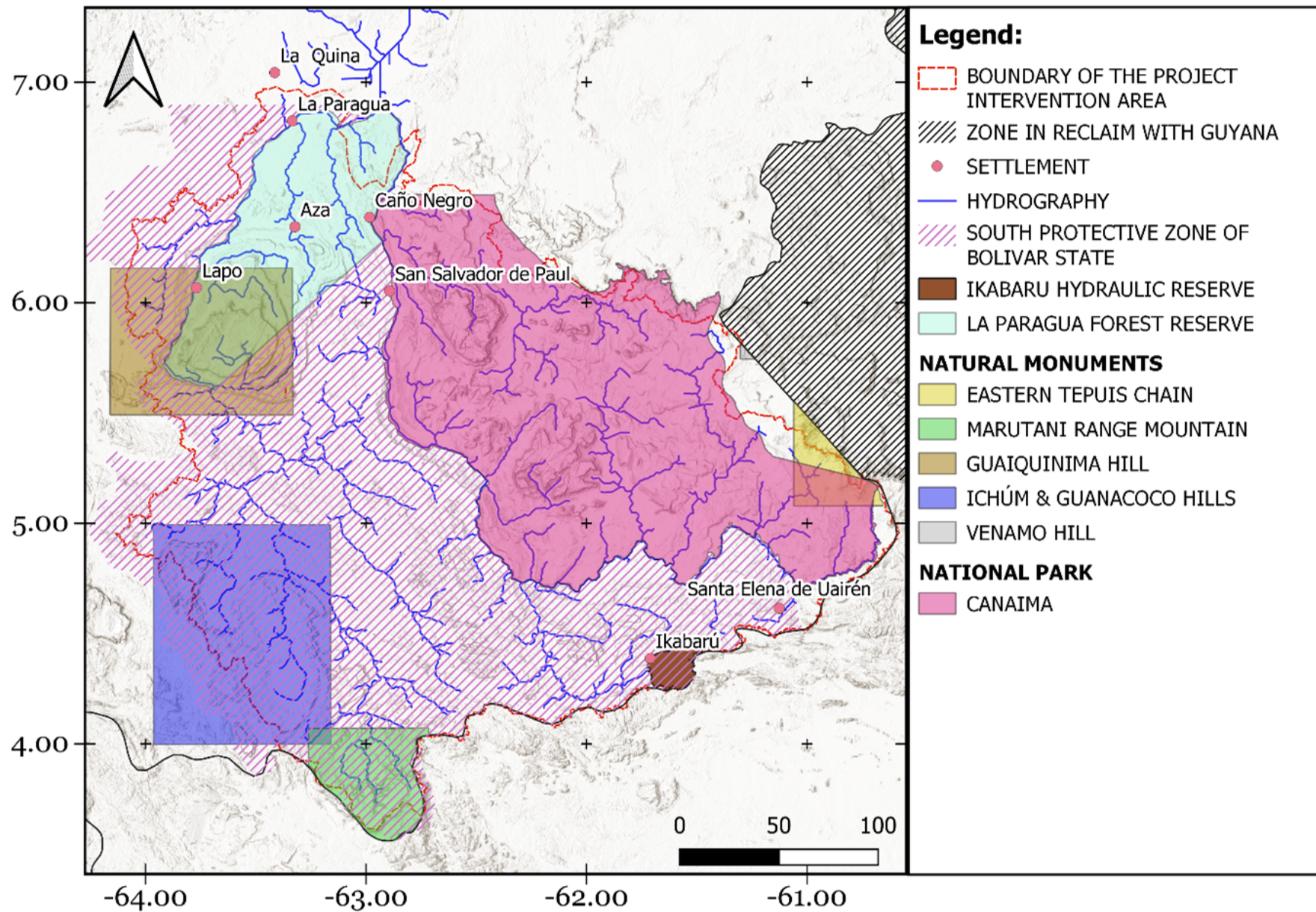
19. The following ABRAE are located in the project intervention area: Canaima National Park (PNC), Tepuis Natural Monuments (MNT), La Paragua Forest Reserve (RFLP), Ikabarú River Hydraulic Reserve (RHI), and Southern Protected Zone of Bolívar State (ZPSEB). These occupy 97.62% of the total surface area of the project intervention area. These ABRAE have no planning instruments, which implies a lack of management, monitoring and control actions on the part of the responsible institutions. Table 5 shows the ABRAE mentioned, the responsible administrator, their declaration and in Figure 3 their location.

Table 5. ABRAE located in the upper Caroni river basin and the upper Paragua river basin.

Type of ABRAE	Name	Cuenca Sector	Administrator	Statement
National Park	Canaima (3.000.000ha)	Upper and middle Caroní River	INPARQUES	In 1994, Canaima National Park was named a UNESCO World Heritage Site because it is a natural reserve with special and unique abrupt reliefs. <a href="#">[3]</a>
Natural Monuments Tepuis Formations	Chain of Eastern tepuis Kukenán (Mataui) - tepui (2,650 m.), Yuruaní - tepui (2400 m.), Wadakapiapué - tepui (2,000 m.), Ilu (including the Tramén-tepui) (2,700 m.), Karaurin-tepui (2.500 m.) Uei - tepui (2.150 m.). (250.000ha)	Upper Caroní River	INPARQUES	Decree No. 1,233 of November 2, 1990. GOE No. 4,240 of January 18, 1991. It does not have an Ordinance Plan and Regulations of Use.  They are MN for having tepuis with unique ecological conditions in the world: they are areas of paleo ecological interest in which there are features and evidence representative of the evolution of the planet, supporting a diversity of flora and fauna of a high degree of endemism.  The tepuis are extremely fragile ecosystems of pristine conditions that need to be preserved.
	Guaiquinima Hill (1.600 m.). (170.000ha)	Under the river Paragua		
	Ichún Hill (1.400 m.), Guanacoco Hill (1.500 m.). (90.000 ha)  Sierra Marutani (1.500 m.) (267.500 ha)	Upper Paragua River		

Forest Reserve	La Paragua (782.000ha)	Lower Paragua River	MINEC	Decree No. 1,046 of January 23, 1968. GO No. 28.541 of January 25, 1968. It does not have an Ordinance Plan and Regulation of Use.  High montane rainforests of Guyana
Protective Zone	South of Bolivar State(4.937.700 ha)	Upper and middle Caroni River and upper and lower Paragua River	MINEC	Decree No. 942 of May 27, 1975. GO No. 30,704 of May 28, 1975.  It does not have a Management Plan and Regulations for Use.
Hydraulic Reserve	Ikabarú (40.000 ha)	Upper Caroní River	MINEC	Decree No. 2,311 of June 5, 1992. GOE No. 4,548 of March 26, 1993.  It does not have a Management Plan and Regulations for Use.





20. Although these areas are legally protected, they are permanently subjected to conflicts over the use of natural resources and anthropic pressures, problems that can be summarized as follows:

- Uncontrolled human interventions, which threaten the sustainable development of the natural resources of these areas.
- Conflicts caused by the lack of definition of boundaries and the multiplicity of legal entities over the same area (overlapping).
- Extensive occupied areas, access difficulties, scarce personnel assigned to the protection and insufficient economic resources hinder the implementation of surveillance and control programs by the competent institutions.

21. From the point of view of political division, the sectors of the Caroní River basin are located in Bolívar State, with the largest surface area in the municipalities of Angostura and Gran Sabana, and small areas in the municipalities of Sifóntes and Piar. According to the 2011 census, the population of Bolívar State is 1,413,115 inhabitants (4.9% of the total national population). A total of 81.9% of the population is concentrated in the north of the state, in the axis of influence of the towns of Ciudad Guayana, Ciudad Bolívar and Upata, while the remaining 18.9% of the population is sparsely distributed throughout the state's extensive territory. In the case of the project area, the total population is 62,520 inhabitants (INE 2011[4]). According to INE's unsatisfied basic needs (UBN[5]) analysis, 61.61% of households are considered poor (surveyed population does not include households in indigenous, other class and collective housing).

Table 6. Total population structure by sex in municipalities and parishes located in the project's intervention area

Municipality	Parish	Men	Women	Total
Gran Sabana	Gran Sabana	13,565	13,057	26,622
	Ikabarú	980	848	1,828
Angostura	Barceloneta	8,680	7,511	16,191
Piar	Pedro Cova	4,709	4,183	8,892
Sifontes	San Isidro	4,669	4,318	8,987
<b>Total</b>		<b>32,603</b>	<b>29,917</b>	<b>62,520</b>

Source: National Institute of Statistics (INE), Censo 2011

Table 7. Poverty by NIB in households in the municipalities and parishes located in the project intervention area.

Municipality	Parish	Not poor	Poor Not extreme	Poor Extreme	% Poor
Gran Sabana	Gran Sabana	2,936	1,473	799	41.90
	Ikabarú	133	170	113	68.03
Angostura	Barceloneta	898	955	1,065	69.03
Piar	Pedro Cova	901	547	485	53.39
Sifontes	San Isidro	541	893	739	75.50
<b>Total</b>		<b>5,409</b>	<b>4,045</b>	<b>3,201</b>	

Source: National Statistics Institute (INE), 2011 Census.

Processed with Redatam+SP, ECLAC/CELADE 2003-2013

NOTE: It does not include households in indigenous, other class and collective dwellings.

22. The population is ethnically rich, as are its natural resources, which have been the basis for the state's social and economic development. There are 379 indigenous communities in Bolívar state, according to data provided by the Office of the Vice-Minister for the Communal Territory of Valleys, Savannas and Tepuyes of the Ministry of Popular Power for Indigenous Peoples (MPPPI 2010).

23. According to the indigenous census (INE 2011), Bolívar state has an indigenous population of 54,686. Of these, 79.9% live in rural areas and the remaining 20.1% live in urban areas. Numerous ethnic groups are distributed throughout the state, the most numerous being: Pemón (53.91%), Eñepa (8.07%), Kariña (7.98%), Piaroa (5.72%), Yekuana (5.39%), Sanemá (4.69%), Guajibo (2.78%) and Warao (1.58%). The Gran Sabana municipality is home to 71.67% (21,129 inhabitants) of the Pemón indigenous population, located in the upper and middle Caroní River basin and covering a large part of Canaima National Park's territory. The most important Pemón communities are Kavanayén and San Francisco de Yuruaní.

24. In Venezuela, the specific rights of indigenous peoples have been recognized in a broad and comprehensive manner in the Constitution of the Bolivarian Republic of Venezuela (1999), in the Organic Law on Indigenous Peoples and Communities (2005). Also in a large number of rules, scattered throughout the legal system, which contain different forms of protection and guarantee of their rights as collective subjects with their own identity.

25. The Constitution of the Bolivarian Republic of Venezuela (1999) establishes a complete chapter on the rights of indigenous peoples (Chapter VIII of Title III), which begins by stating in Article 119 that "The State shall recognize the existence of indigenous peoples and communities, their social, political and economic organization, their cultures, uses and customs, languages and religions, as well as their habitat and original rights over the lands that they ancestrally and traditionally occupy and that are necessary to develop and guarantee their ways of life..." From the legal point of view, the fundamental



importance of this provision is that the Venezuelan State makes an express recognition at the constitutional level of the existence of indigenous peoples and communities, of their internal organization and autonomy (social, political, economic, cultural, linguistic and religious) and of the original territorial rights linked to their possibilities of life and survival.

26. The Organic Law on Indigenous Peoples and Communities (2005) establishes in its "Article 3: Indigenous Peoples: are human groups descended from the original peoples that inhabit the geographic space corresponding to the national territory, in accordance with the Constitution of the Bolivarian Republic of Venezuela and the laws, who recognize themselves as such, for having one or some of the following elements: ethnic identities, lands, social, economic, political, cultural, cultural institutions and justice systems of their own that distinguish them from other sectors of the national society and that they are determined to preserve, develop and transmit to future generations. "

27. It also established the possibility of exercising autonomy as a capacity for self-management of their own affairs: "Article 5. Indigenous peoples and communities have the right to decide and assume autonomously the control of their own institutions and ways of life. Also, their economic practices, their identity, culture, law, uses and customs, education, health, cosmovision, protection of their traditional knowledge, use, protection and defense of their habitat and lands and, in general, of the daily management of their community life within their lands to maintain and strengthen their cultural identity... Indigenous peoples and communities have the right to participate in the administration, conservation and use of the environment and of the natural resources existing in their habitat and lands."

28. The provisions of Article 119 of the Constitution and Article 5 of the Organic Law on Indigenous Peoples and Communities constitute the legal basis for protecting the way of life maintained by the indigenous peoples in Venezuela and the safeguarding of the lands and territories where their material and cultural life is carried out. For this purpose, the Commission for the Demarcation of Indigenous Habitats and Lands was established, a process that has made little progress, especially when the responsibility passed from the Ministry of the Environment (today MINEC) to the Ministry of the Popular Power for Indigenous Peoples. Among those who still have no response are the Pemón people of the Paragua, Kuyuní, Kamarata, Kavanayen, Wonken, Uriman, Santa Elena, Yukpa (Chakyapa) sectors. However, in 2016 the collective land title of the Pemón people in the Ikabarú<sup>[6]</sup> sector was officially recognized (MINPPPI, 2018), in a context of tensions generated between the Army and the Pemón authorities of that sector as a result of the impact of mining on the communities of the Gran Sabana and the upper and lower parts of the river basins located in the other sectors, Kuyuni, La Paragua, Ikabarú, Kavanayen (Canaima).

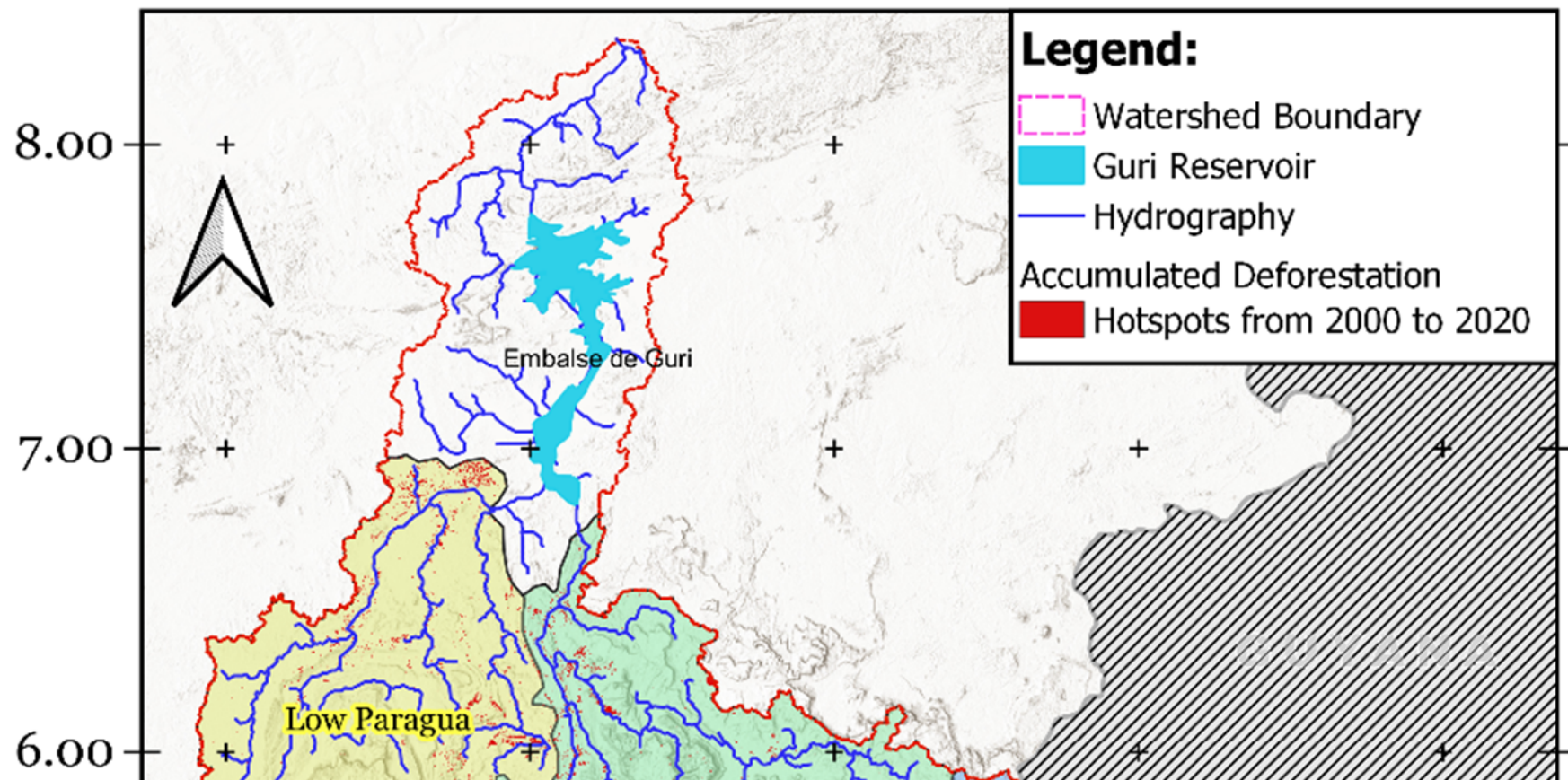
## Threats

29. The entire Caroní River basin and its biological diversity are under constant and, in some cases, growing threats. Since the beginning of the 19th century, minerals, timber and non-timber forest products, medium and large animal species, and occasional agricultural and livestock activities have been extracted in the Guayana area, which have modified the original ecosystems. In the case of agricultural activities, they are relatively limited due to the poverty of the Guayana soils.

30. In the area, unauthorized mining activities for diamond and alluvial gold extraction use environmentally degrading technologies such as hydraulic monitors and mercury in sites such as El Mosquito, El Polaco and Ikabarú-El Infierno; and in the upper Paragua in the area of the Antabari River (Alto Caroní). This generates deforestation and soil loss processes (erosion and sedimentation) in the adjacent areas used for storage, as well as other infrastructure required for exploitation (Hammond, Rosales, & Ouboter, 2013). According to the Global Forest Change product developed by Hansen et al. (2013), 94,772 ha were deforested from 2000 to 2020, representing an average annual rate of -0.07%. Figure 4 shows the deforestation hotspots in the middle and upper portions of the Caroní and Paragua rivers. A large part of them is concentrated on the banks of both rivers.

31. In the case of sedimentation, a large amount of suspended solids becomes part of river currents, thus accelerating riverbank erosion. Sedimentation affects the useful life of the El Guri dam, reducing production, storage, and the capacity to attenuate energy flows. Another impact is mercury contamination; the excessive use of this metal influences the contamination of soils and aquifers, with the effect being bioaccumulation in the trophic chain. One of the secondary impacts is social degradation, since unpermitted and uncontrolled mining causes citizen insecurity, corruption and the dismantling of traditional uses and activities in the area. (Hammond, Rosales, & Ouboter, 2013).

32. Logging, whether for timber exploitation, the establishment of “conucos<sup>[7]</sup>” (small farms), agricultural and livestock intervention or the effects of mining, is unregulated and without an adequate approach to the species likely to be used, which has repercussions on the loss of biodiversity and introduces changes to the microclimate and runoff, ultimately affecting the soils and relief. One consequence is erosion, where 80% of the surface area has low to moderate levels of erosion, 36.7% has moderate erosion, including the Alto and Bajo Caroní and Bajo Paragua areas, and 17% has heavy erosion, mainly in the Alto Caroní sector (8,872 km<sup>2</sup>) (EDELCA, 2004).



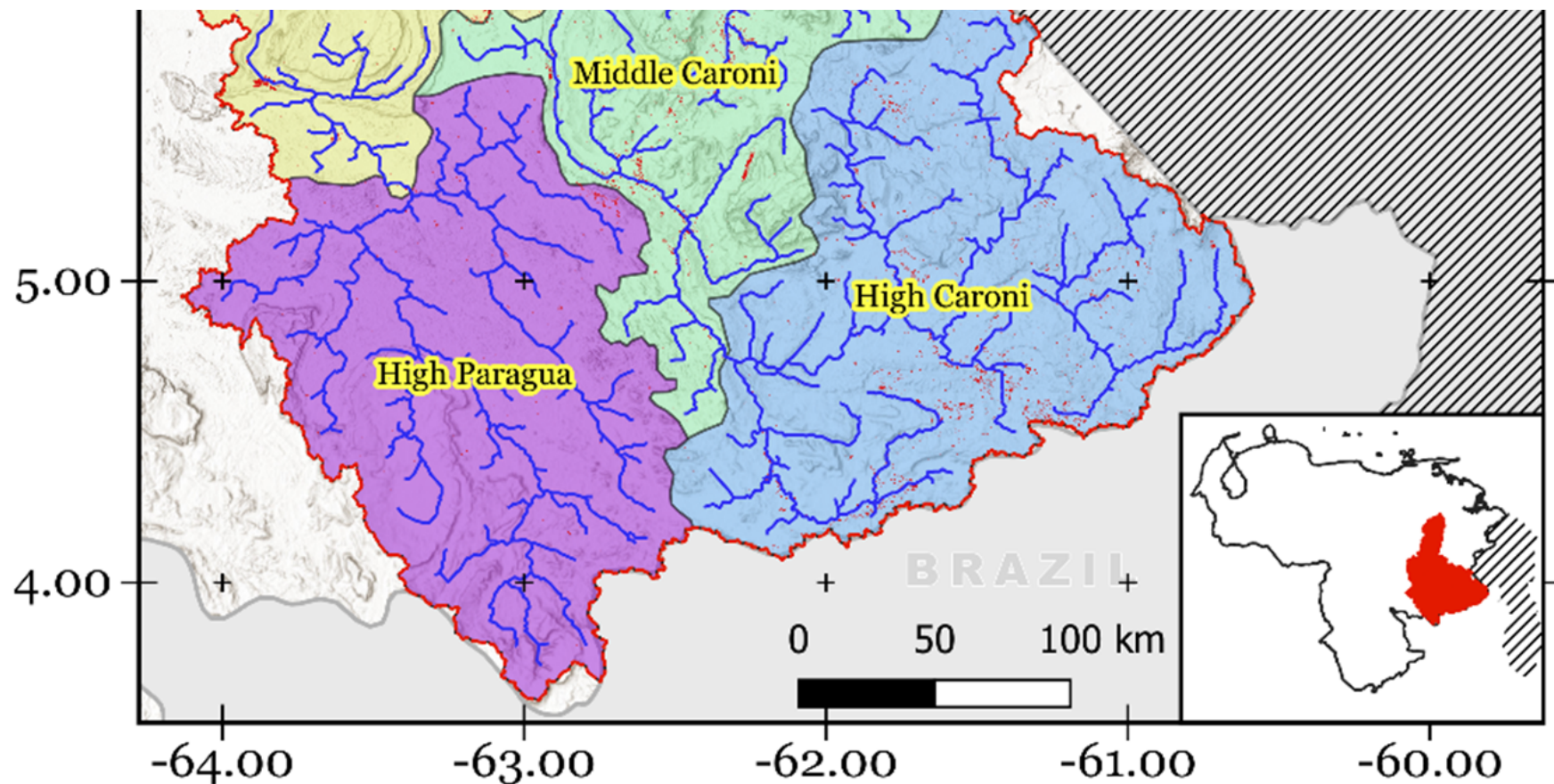


Figure 4. Deforestation hotspots during the period 2000-2020 based on the Global Forest Change product version 1.8.

33. Different types of biomes predominate in the tepuis, which are very sensitive to anthropogenic activities, including hikers' footprints and arson, which have multiplied in recent years in Bolívar State with the growing visit of national and foreign hikers, mainly in the Roraima-tepui, Kukenán-tepui and Auyán-tepui. Another extremely negative activity is the uncontrolled extraction of quartz crystals, orchids, bromeliads and other flora and fauna species such as birds, especially the Venezuelan Psittacidae family represented by: red and green macaws (*Ara chloroptera* and *Ara militaris*), yellow-shouldered parrots (*Amazona barbedensis*), yellow-crowned parrots (*Amazona ochrocephala*), brown-necked parakeets (*Aratinga pertinax venezuelae*) and black-headed Caiques (*Pionites melanocephala*). On the other hand, the use of four-wheel drive vehicles, opening trails in areas that are not permitted, causes the destruction of vegetation, soil degradation, erosion and sedimentation, as well as soil and water contamination due to inadequate waste disposal.

34. Another threat to biodiversity is exposure to fires. Approximately 617,110 ha of the Alto Caroní and 114,558 ha of the Alto Paragua are at moderate risk of fire. (MINEC, 2020). The indigenous communities that inhabit the Gran Sabana, by burning vegetation as an important activity for the development of conucos, have affected the savanna ecosystems, leaving the soils at the mercy of erosion. Table 8 and Figure 5 show that the largest sector of the basin affected by

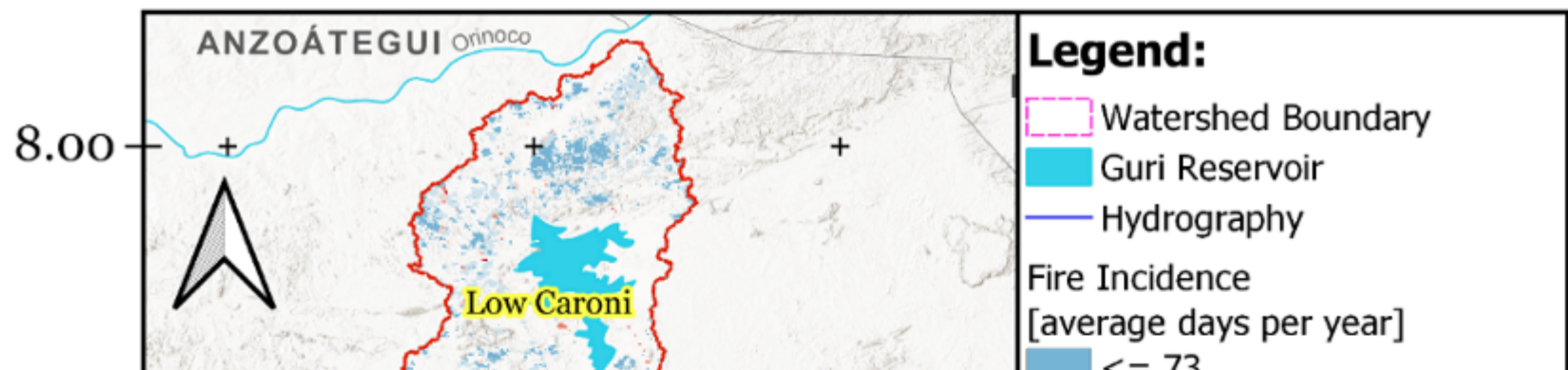


fires is the upper Caroní with 19,271 ha, followed by the lower Paragua with 14,670 ha, with the highest number of days per year of fires in the upper Caroní. These sectors correspond to the pasture areas of the Gran Sabana.

Table 8. Area burned in the intervention area of the Caroni River basin (2015-2021)

Año	Area burned [ha for each year] per Spatial Unit analyzed			
	Upper Caroní	Upper Paragua	Middle Caroni	Lower Paragua
2015	28.692	24	6.030	16.832
2016	16.895	0	13.947	19.944
2017	15.431	0	2.952	9.969
2018	21.420	0	6.233	12.850
2019	18.605	0	11.795	17.338
2020	24.804	124	4.764	21.650
2021	9.052	49	1.137	4.111
Promedio	19.271	28	6.694	14.670

Source: Giglio, L., Boschetti, L., Roy, D. P., Humber, M. L., & Justice, C. O. (2018). The Collection 6 MODIS burned area mapping algorithm and product. Remote sensing of environment.



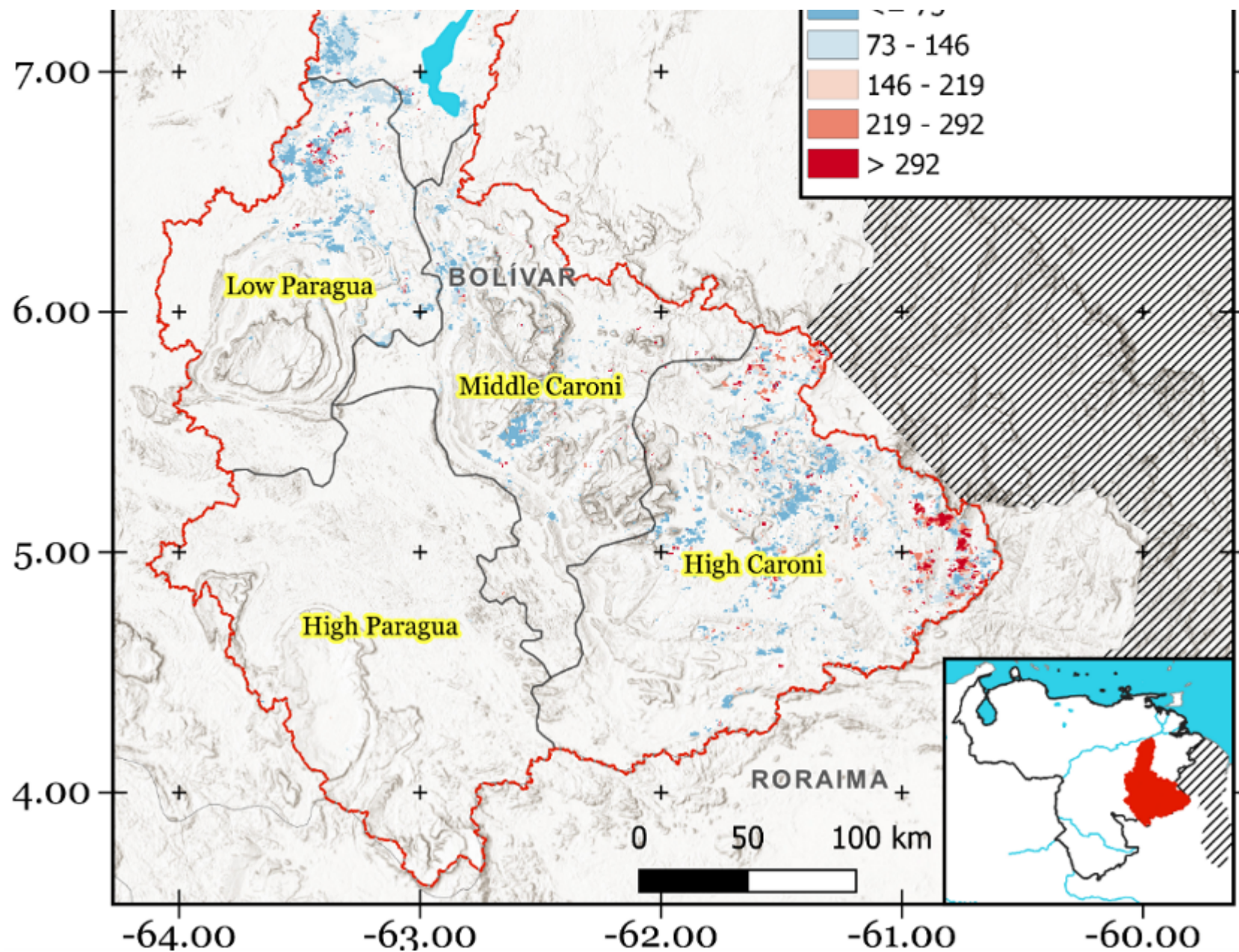


Figure 5. Average number of days with fire occurrences during the period 2000-2021 based on the MCD64A1 v6.0 product.

Barriers

35. **Barrier 1: Limited institutional capacity, which affects the capacity of management and integral management of the Caroní River basin**, this has an impact on the integrated management capacity of the Caroní River basin, as evidenced by insufficient inter-institutional and inter-sectoral coordination, the lack of definition of the roles of the institutions with shared responsibilities, and insufficient monitoring and control of the ABRAE.

- Institutional weaknesses have hindered the implementation of concrete conservation activities. At the local level, municipalities have not been sufficiently involved in ABRAE management. Several causes underlie this problem and are related to: Scarce inter-sectoral and inter-institutional coordination, different institutional visions or objectives, existing coordination mechanisms, e.g., working tables, workshops and others, are activated only to carry out specific actions based on punctual and sometimes emergency situations.
- Institutional and administrative resources dedicated to the ABRAE are insufficient; in addition, the capacity to coordinate and operate is weak, which causes inadequate control and management of the PAs in the Caroní River Basin. INPARQUES' budgetary and financial management has been experiencing budgetary limitations that affect its operational capacity, including the acquisition of materials and supplies and payments for services and personnel. This has also generated a reduction in surveillance and supervision activities due to the lack of supplies that guarantee the minimum functioning of equipment and vehicles.
- Social participation in ABRAE management is low. This absence affects environmental education processes, the consolidation of community agreements for conservation, the promotion of new sustainable productive alternatives (ecotourism, sustainable rural production and the valuation of environmental goods, etc.), among other priority issues.
- The lack of capacity for communication, dissemination and education in conservation matters has an impact on an environmental culture prone to unsustainable natural resource activities among national and local government actors, indigenous and local communities, private enterprise, educational institutions and organized society in general.
- Planning in the tourism, forestry, mining, and agricultural sectors is completely isolated and provides very little consideration for the use and conservation of globally and locally important biodiversity.

36. The regulatory and normative framework for the planning and management of the ABRAE is also deficient, which results in limited effectiveness in the management and fight against threats to biodiversity. An example of these deficiencies is that there is no adequate provision in the process of preparing the Management and Use Regulation Plans (PORU) or in the management plans for the participation of indigenous and local communities.

37. Institutional and administrative resources dedicated to the ABRAE are insufficient; in addition, the capacity to coordinate and operate is weak, which causes inadequate control and management of the ABRAE in the Caroní River basin.

38. **Barrier 2. Low coordination between national, regional and local institutional actors involved in the preservation and use of conservation objects.** One of the major weaknesses in the current institutional framework is the lack of an integrated vision and coordinated approach to protected area planning and management in the Caroní River Basin. Although MINEC is the environmental authority at the national level and is legally designated as the main institution with responsibility for ABRAE management. The area includes a wide range of different categories of ABRAE over which various institutions have shared responsibilities, and opportunities for synergies between institutions are not taken advantage of, which could lead to greater operational effectiveness and cost efficiency. Institutional conflicts, such as similar competencies and low levels of coordination, have not made it possible to address and resolve conflicts over the use of space and natural resources, nor to improve and increase surveillance and control, let alone define and implement a consensual management instrument for this important and strategic territory. As a result, this situation has a negative impact on the conservation of biological diversity.

39. The natural resource management institutions of the governmental sector have various visions for the administration of the territory where the Caroní River basin is located, as well as the various ABRAE. On the one hand, there is the watershed management approach aimed at conserving the watershed for water and energy production purposes; on the other, the conservation approach for biodiversity protection, public enjoyment and continuity of the cultural heritage; and the most extreme approach, which has caused the most problems, is the one that involves the exploitation of mineral and non-mineral resources through legal elements that authorize free mining in the area.[8].

40. The application of management policies and regulations has promoted disagreements among the indigenous and local population towards programs, projects and policies that seek to integrate their visions and opinions very late, or when they have already been defined. An example is the case of CORPOELEC, which has considered the environmental importance of the Caroní River basin and has prepared the Caroní River Basin Master Plan (CVG-EDELCA 2004). However, it has not been consolidated because it is considered (Sánchez and Rosales, 2008) that it does not include a multi-sectoral management vision and does not respond to the requirements of its present natural, social and economic dynamics; however, it is a valuable resource that can be used by involving all stakeholders with an integrated vision.

41. **Barrier 3. Outdated or non-existent regulatory frameworks (Management plan and regulation of use) to order and guide the sustainable management of the Basin and its protected and forest areas:** The Caroní River basin stands out for its wide variety of ecosystem services, its biodiversity, and its cultural and economic wealth. Despite the fact that most of the basin is protected by different ABRAE, its management does not respond to the area's conservation needs due to scarce institutional capacity, lack of resources and information, and insufficient tools that bring together the vision of all stakeholders to manage biodiversity in a sustainable manner. An example of this is that the MNs, the Ikabarú hydraulic reserve, as well as the Protected Zone of southern Bolívar State and La Paragua Forest Reserve do not have use regulations. Canaima NP only has regulations for use in the eastern sector, but they are outdated.

42. The information related to the conservation targets is outdated. A large part of the existing infrastructure is currently inoperative and does not have state-of-the-art technology, which limits the collection, management and interpretation of hydrological, climatic and meteorological information that is essential for monitoring and follow-up of the environmental aspects of the Caroní River basin, specifically in relation to its effects on biodiversity and ecosystem services. Even though there are studies and a master plan for the Caroní River basin, the deterioration of the existing systems affects the information gaps for its management.

43. For this reason, there is an evident lack of knowledge about socio-ecological systems at regional and local scales, which restricts effective decision-making. These information gaps impede inter-institutional and inter-sectoral coordination, as well as coordination with the inhabitants of the basin, and hinder the design of effective mechanisms to mitigate pressures on ecosystems and promote sustainable management of natural resources in the region.

44. **Barrier 4. Scarce biodiversity-friendly economic alternatives to improve the quality of livelihoods of indigenous and local communities in a sustainable manner .** Although the landscape recognizes the existence of indigenous communities, and they have rights granted by Venezuelan law, there are gaps to optimize the contribution of state institutions to improve their livelihoods and especially those related to biological diversity and ecosystem services. For the indigenous community, the territorial management approach is based on living within the principles and values of the culture and being the protagonists of the decisions of their own lives. Studies in some communities of the Pemón people show that they depend on activities that are mostly unfriendly to biological diversity for their subsistence. This is due to the fact that agricultural production does not meet their food needs (Angosto, 2013). Thus, for them it is necessary to search for more profitable alternatives, even if they are not permitted and are not sustainable.

## 2) The baseline scenario and any associated baseline programs.



45. A number of initiatives implemented by public entities that support the management of protected areas, biodiversity management, recovery of degraded areas, generation of information and generation of sustainable livelihood alternatives are reported. The project will be based on the following reference scenario:

46. State allocations such as the fiscal budget of the Central Government to MINEC for the execution of activities related to biodiversity management, watershed and territorial planning and management. In 2020, MINEC, allocated to the General Directorate of Biological Diversity USD 148,723, for the execution of the programs of: a) Control of trafficking or illegal trade of flora and fauna species (USD 89,132); b) Venezuelan System of Information on Biological Diversity (USD 14,898); c) National Program for Conservation and Promotion of sustainable agro-ecological practices (USD 14,898), and d) Programs for sustainable use of species (USD 29,796).

47. The National Science and Technology Fund (FONACIT), which receives a budget assigned by the Organic Law of Science and Technology, is responsible for financing productive, educational, dissemination, research, innovation and technology projects to strengthen the country's scientific, technological and industrial apparatus.

48. The Government has planned the execution of different projects in the southern zone of the state of Bolivar. These have been identified and will be implemented by different institutions such as MINEC, INPARQUES, MPPPI, Bolivar State Government and Mayors' Offices, CVG-EDELCA, Universities, research centers of the Venezuelan Institute for Scientific Research (IVIC) and private companies. The projects mentioned below are being implemented, and coordination will be established with them to complement activities in the area.

49. Control and monitoring of biodiversity trafficking in Canaima National Park: It has a budget of USD 30,000 from the Program for the Control of Trafficking or Illegal Trade of Flora and Fauna Species to complement the aforementioned organizations, specifically the INPARQUES project on the "Influence of changes in the use patterns of natural resources in Canaima National Park (NP) on the landscape".

50. Promotion of sustainable practices in the use of biological diversity in the Imataca Forest Reserve (Tumeremo - El Dorado, Bolivar State): An allocation of US\$10,000 is estimated for the Sustainable Use of Flora and Fauna Species Program to complement the aforementioned organizations, specifically the project of the General Directorate of Forest Heritage on "Sustainable Forest Management and Forest Conservation from an Ecosocial Perspective in the Imataca Forest Reserve" financed by the GEF and implemented by FAO, and projects of the company Zoocriaderos del Orinoco.

51. Evaluation of changes in use patterns in Canaima National Park: It is estimated that the project will manage an amount of USD 5,000 from the National Program for Conservation and Promotion of Sustainable Agroecological Practices to complement the aforementioned organizations, specifically the INPARQUES project on the "Influence of changes in natural resource use patterns in Canaima NP on the landscape".

52. Among the past projects of the former Ministry of Popular Power for Ecosocialism and Waters (MINEA), is the INCLAM - INGENIAS Consortium that in 2016 worked for the management in the state of Bolivar and associated ABRAE, and developed the Water Management Plan for the Caroni River Basin, laying the groundwork for the formulation of the management instruments of the ABRAE associated with the Caroni basin. Thus, the Project will use the main results of the plan in relation to Canaima NP, the Natural Monuments, the Protected Zone and the Ikabarú National Hydraulic Reserve.

53. Another important institution present in the territory is Corporación Eléctrica Nacional (CORPOELEC), which bases its energy sector operations on the power extracted from the water resources of the Caroní basin. As part of its corporate responsibility it has the General Management of Environment, Safety and Occupational Hygiene, one of the six managements is exclusive to the Roraima Region, whose operational Departments are the Environmental Project Management and Environmental Monitoring, and the Department of Environmental Management of Basins (DGAC). Between 2014 and 2019, the company had



allocated economic resources, of which USD 2,503,628 corresponded to operating expenditure. In the Caroní River Basin, in the last 5 years, the company has executed 2 projects for an amount of USD 6,888,755 financed by multilateral entities such as CAF and IDB. The DGAC also carries out activities to promote and develop projects in the indigenous communities of the Caroní and Cuyuní basins that resulted from the Mayú project (completed in 2005). Thus, the DGAC continues to work in the following areas:

- Community-based tourism, extrapolating the Kavanayen experience to the San Antonio de Morichal - Paraitepuy axis of Roraima.
- Management of natural resources, developed with the Escuela Técnica Agropecuaria Fe y Alegría de Manak-Krü.
- Support to other activities related to the inventory of environmental liabilities at CORPOELEC's sub-stations in Sifontes, Las Claritas and Luepa.
- Support for Luepa and Kavanayen, regarding solid and hazardous waste management, sewage and fire vulnerability.

54. CORPOELEC has identified land use planning as an important tool for integrated environmental management. Through compliance with contractual commitments made with multilateral financial entities in this area, it has developed the Master Plan for the Caroní River Basin (2004), and Territorial Planning in Spaces Associated with Hydroelectric Generation (2016). The importance of these tools lies in the fact that they contain integrated proposals for the establishment of management plans, as well as specific proposals for the ABRAE declared in these territories, including for the latter their Management Plans and Use Regulations (PORU), which may be useful inputs for the Project. In addition, CORPOELEC has developed a proposal for 7 programs to address environmental conflicts and promote sustainable use and development, and conservation. On the other hand, the company developed the Proposal for the Creation of the Public Works Protection Area (APOP) of the Tocomá Reservoir, Bolívar State, with its respective technical study and PORU project.

55. Regarding monitoring, CORPOELEC has a network of 141 hydro-meteorological and limnological stations in the area, with only 22 stations in operation (8 pluviometric, 7 climatological and 7 level stations are operational); a closed limnology laboratory; main camps; base camps located in the middle and upper Caroní and Paragua, which support the monitoring networks.

56. As part of its activities, the Venezuelan Institute for Scientific Research (IVIC) has developed a computer platform for ecosystem management and monitoring of ecological units and their components. They have cartographic products of ecosystems at the national level at scales of 1:250,000-10,000. They have also developed a baseline of the vulnerability of the study area to the effects of climate change, in relation to the ecological effects of climate change. IVIC also has model scenarios at the national level of the change in the distribution of vegetation formations.

57. INPARQUES is in charge of managing the ABRAE (NP and MN) within the study area. For 2020, it planned to allocate USD 173,974 to develop management activities related to protection, public use, research, resource management, administration and planning. Most of the activities are carried out in Canaima NP, while in Cadena de Tepuyes and Marutani MNs, there are relatively few permanent activities because the two MNs are closed to the public and access is limited due to the conditions of the area, and they are well protected by the indigenous communities because they are considered sacred. In Bolívar State, INPARQUES has assigned 120 people to work in the ABRAE and has proposed increasing the number of personnel to improve management of the areas. Specifically, for the Project's intervention areas, the Institute has the Management Plan and Area Use Regulations (PORU) for the eastern zone of Canaima NP and its respective Management Plan. In the case of the Cadena de Tepuyes and Marutani MNs, the PORUS are in the formulation phase and are pending socialization with the communities. In relation to the recovery of degraded areas, Canaima NP is the most affected, although the total area to be regenerated has not been estimated; however, progress has been made in the implementation of a nursery with forest and non-forest species for the recovery of the area.

58. The public company CVG Técnica minera (CVG Tecmín) and the Ministry of Science with the support of scientists from the universities: Nacional Experimental de Guayana (UNEG), Politécnica Antonio José de Sucre (Unexpo), Politécnica de la Fuerza Armada (UNEFA), Bolivariana de Venezuela (UBV), Bolivariana de los Trabajadores Jesús Rivero, Politécnica Territorial del Estado Bolívar (UPTTEB); the Sidor Research Center, the National Institute for Socialist Training and Education (Inces) and the National Institute of Statistics (INE) have generated knowledge on capacities and vulnerabilities for responsible mining, in order to reduce the negative impact on the environment caused by current mining activities. At the same time, the research will guide responsible public policies for the primary exploitation and processing of minerals.

59. The Ministry of People's Power for Indigenous Peoples is developing the Sectoral Plan for Indigenous Peoples through the following agenda: i) Development, from the Vice-Presidency of Planning together with the Ministry of Indigenous Peoples, of the pre-census survey of Indigenous Peoples, as well as the first digital mapping and atlas of the same. ii) Regionalization of the school feeding plan (PAE), with processes of direct purchase of indigenous agricultural production, guaranteeing that at least 30% of the PAE food in the indigenous regions will be indigenous products purchased directly from indigenous producers. The coordination of this activity will depend on a regional Committee of the Presidential Council of Indigenous Peoples, in coordination with the Ministries of Popular Power of Education and Indigenous Peoples. iii) Incorporation in the Bolivarian National Curriculum of the components of intercultural bilingual education, as well as the methodologies and pedagogical practices in the national educational system to advance in the construction of a multiethnic society, which guarantees the harmonic balance for good living. This task will be developed jointly between the Ministry of People's Power for Education and the Ministry of People's Power for Indigenous Peoples. Concrete actions for immediate implementation were presented in 2018; as well as projection within the framework of the Plan for the Homeland 2025. IV) Generate a fund for the acquisition and production of machinery and equipment associated with the scaling up of the production of mañoco (flour extracted from the roasted root of yucca), cassava and cassava flour and plantain, among others, to provide solutions to food security and sovereignty from the productive scaling up and rooting of our traditions and customs.

60. In terms of the conditions of indigenous peoples, they are organized at different levels. At the local level are the so-called captains, who can exert influence throughout an area. These in turn form the Council of Captains (Caciques), which is directed by the Captain General. These councils in turn group together to form the Bolivar State Indigenous Federation (FIEB).

61. The Indigenous Federation of Bolivar State, together with the Ministry of Popular Power for Education and the NGO, The Nature Conservancy, elaborated a Public Policy Plan for the Pemón People in 2003, presenting a sectorized diagnosis (Sector I. La Paragua; Sector II-Kamarata-Kanaimö; Sector III-Urimán; Sector IV-Kuyuni; Sector VI-Santa Elena Uairén; Sector VII- Ikabarú; and Sector VIII-Wuyuni). La Paragua; Sector II-Kamarata-Kanaimö; Sector III-Urimán; Sector IV-Kuyuni; Sector VI-Santa Elena de Uairén; Sector VII- Ikabarú and Sector VIII-Wonken, except Sector V-Kavanayén). This diagnosis provided the basis for the granting of collective land titles, based on the provisions of Venezuelan law. In 2016, the collective land title of the Pemón people in the Ikabarú sector was recognized.<sup>[9]</sup>

62. Successful experiences within the region, which can serve as a guide to be used within the project intervention area, with appropriate adjustments, include:

- In 2018, two indigenous peoples of the Venezuelan Amazon made significant progress in their processes of building specific models for Prior, Free and Informed Consultation about projects intended to be carried out within their territories. The Uwottüja indigenous people of the Autana municipality (Amazonas state) completed the process of workshops and methodological elaboration, revisions and translation of their own Protocol, culminating in an approving general assembly. Likewise, the Yanomami people of the Parima sector have advanced in the same process. These two advances are important "...because in Venezuela, none of the indigenous peoples had a particular model that indicated a specific method of Free, Prior and Informed Consultation, adjusted to the uses and customs of each".<sup>[10]</sup>

· The Tukupu Indigenous Enterprise supports a key forest co-management model for the implementation of the 'Sustainable Forest Management and Forest Conservation in an Ecosocial Perspective' project, which has been implemented by the Venezuelan State (MINEC), the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF) since 2016. The Kariñas manage a forestry company and a territory of almost 7,000 hectares, granted in concession by the State in 2020, for sustainable use. The collection of seeds of traditional species, the establishment of community and family nurseries, food production in conucos, are Sustainable Forest Management and Sustainable Land Management practices that involve a majority of women in their execution and management. As part of the project, Tukupu produces enough food to supply the Kariña communities in the reserve and markets the surplus in Tumeremo, Sifontes municipality.

### **3) Proposed alternative scenario with a brief description of the expected results and project components.**

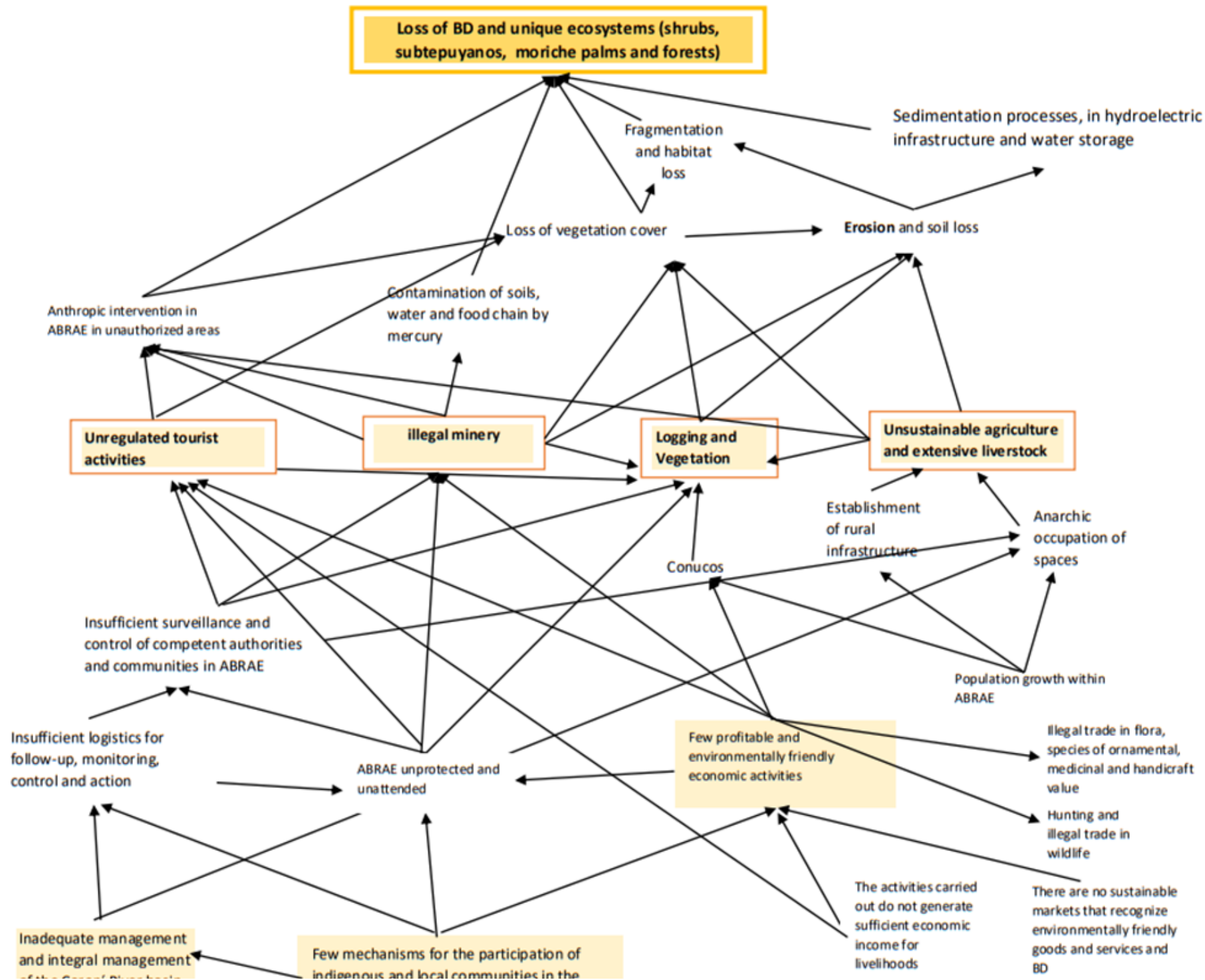
63. The project aims to achieve biodiversity conservation through the implementation of an integrated landscape management (IPM) strategy that includes inter-institutional coordination, territorial planning, financial sustainability, social participation with an intercultural vision, effective management of existing protected areas and the promotion of sustainable production models. In this way, the project will complement the actions of MINEC and INPARQUES and will effectively contribute to the development of a Regional IPM Strategy to overcome institutional weaknesses (barriers # 1 and 2), which generate inefficiencies in protected area management and biodiversity losses (barrier # 3), and allow the persistence of a development model with high environmental impact (barrier # 4).

64. The project will strengthen the institutional, legal and policy framework, build capacity to support the effective management of existing ABRAE within the Caroni River Basin to achieve improved coverage of key conservation targets. The project will also promote participation and coordination among key stakeholders at all levels. In particular, it will help with the coordination of agreements by specifying roles, financial obligations, and conflict resolution mechanisms between relevant sectors and actors. The project will increase the management capacity of ABRAE through a training program for staff at central and regional levels, focusing for example on methodological capacity building, learning from past experiences and harmonizing technical and collaborative approaches between institutions. Consolidation of the ABRAE system and biological indicators and information on biodiversity status and environmental pressure conditions will be developed and integrated into ABRAE planning procedures and management strategies. Management tools will be developed to facilitate effective planning and decision making.

65. The consolidation of the 5 ABRAE will necessarily be supported by actions to promote their financial sustainability. The project will underpin the development of a financial plan, in the first instance, to improve financial management and effectiveness, and help optimize and manage the use of the funds that are available, and, secondly, to increase and diversify income by creating a diverse, stable and secure financing portfolio. The project's actions will be planned and coordinated taking into consideration the lessons learned from the projects that the country has implemented in its different ABRAE. In general terms, the proposed IPM is understood as the harmonization of planning, financing, territorial management and sustainable use of natural and cultural resources. In this sense, the articulation and search for congruence between different planning, financing and territorial management instruments allows promoting the recovery of degraded ecosystems through Environmental Planning and the use of participatory management tools between institutions, indigenous and local communities and productive sectors, as well as connectivity between different conservation schemes, is fundamental for IPM. This allows biodiversity flows, ensures the provision of ecosystem services and facilitates the articulation of policies in the territory in order to achieve landscapes that are managed in a sustainable manner.

66. The IPM approach will allow for an integrated treatment of a defined geographic space where environmentally critical areas are combined into collective territories, ABRAE and production landscapes to preserve cultural, biological and ecosystemic diversity. Also to generate sustainable economic opportunities and the participation of territorial social and institutional actors in making decisions that benefit or affect their territory (i.e., it promotes territorial, environmental and productive management in a participatory manner).
67. The project's strategies will include the right of indigenous peoples to free, prior and informed consent (FPIC<sup>[11]</sup>), which means the consensus/consent of indigenous peoples determined in accordance with customary laws and practices<sup>[12]</sup>, for which the support of the Captains of the communities, the Council of Captains and the Indigenous Federation of the State of Bolívar is sought. In this way, participatory mapping will be used to identify the areas used in each community: for conucos, hunting, natural areas, among others. This information will be combined with the technical information gathered by the institutions to develop a basis for land-use plans.
68. In addition to gathering territorial information from the indigenous communities, sustainable productive alternatives will be evaluated jointly, based on the production and use with added value of goods and services generated from biodiversity and the promotion of ecotourism, thus contributing to the creation of sustainable economic alternatives and improving the livelihoods of the communities. Along the same lines, the project will promote activities that reinforce the central role of indigenous women and elders as guardians of traditional knowledge, biodiversity, food security, the community and the family.
69. It can be summarized that IPM brings together social, cultural, economic and governmental actors in the framework of good governance processes where everyone wins by coordinating and cooperating to ensure sustainable development, based on the functionality and supply of bio-physical and socio-cultural elements, and always addressing the specific environmental challenges and problems of the territory in which they operate. Therefore, the strategy must be permanent in its application, since it must seek to model behavior and promote a culture of sustainability. The application of pilot experiences or demonstration projects is essential for its start-up and consolidation, and an openness to the testing of new ideas and a broad approach to adaptive management must be maintained.
70. These strategies respond to the analysis of the problem tree presented in Figure 6, where the structural causes in the project area are: there is a population with poverty due to unsatisfied basic needs, and different visions among institutions and indigenous and local communities to implement integrated landscape management. This situation, on the one hand, causes scarce participation mechanisms of the local communities in the planning, development and conservation process of the basin, which translates into inadequate management and integrated management of the Caroní River basin. On the other hand, the local population carries out activities that do not generate enough income to sustain their livelihoods, and there are no sustainable markets that recognize biodiversity-friendly goods and services. Both situations generate the following main problems: unregulated tourism activities, unpermitted mining, logging and vegetation fires, and unsustainable agriculture and extensive cattle ranching. The consequences of the above are the loss of vegetation cover, erosion and soil loss, mercury contamination, which in turn causes fragmentation and loss of habitats and sedimentation processes in the hydroelectric infrastructure and water storage, the sum of all of the above, results in the loss of biodiversity and unique ecosystems (shrub lands, sub-tepuis, morichales (tree of the palm family) and forests).

## PROBLEM TREE



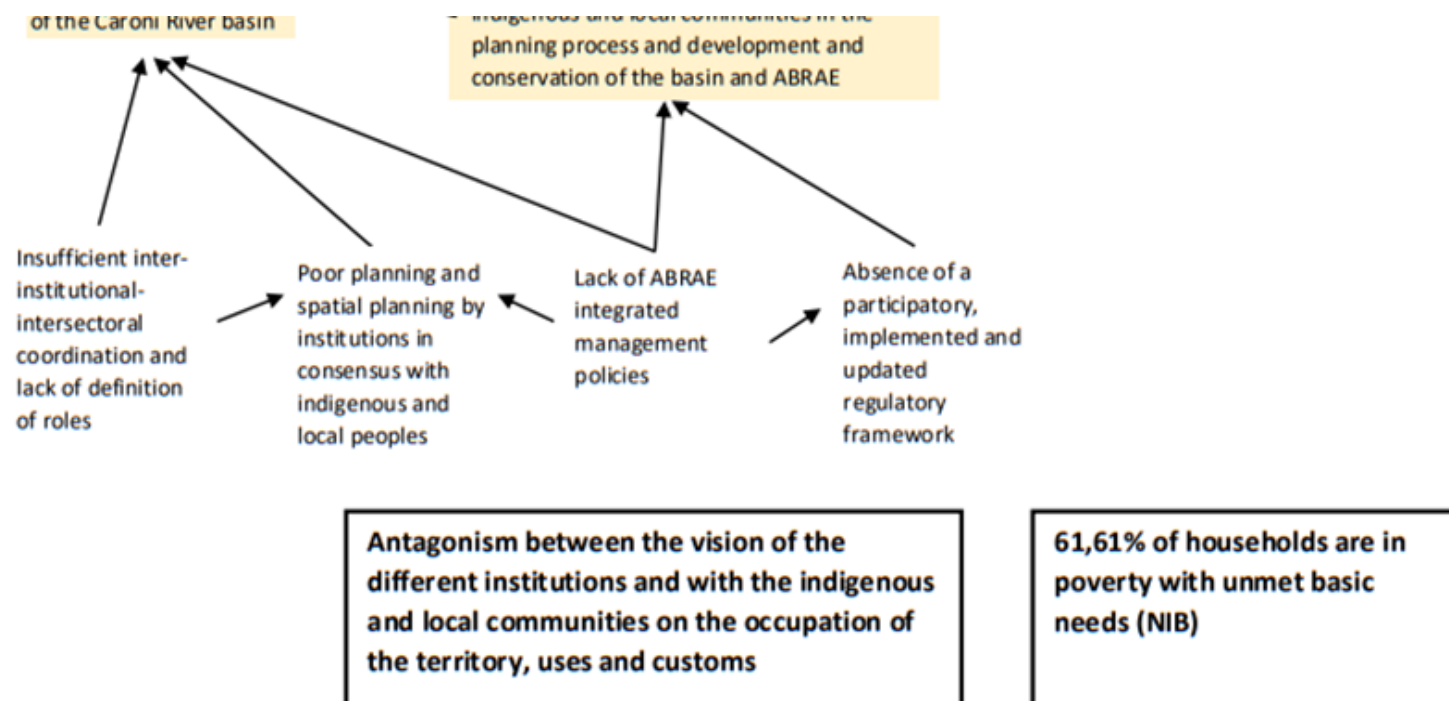
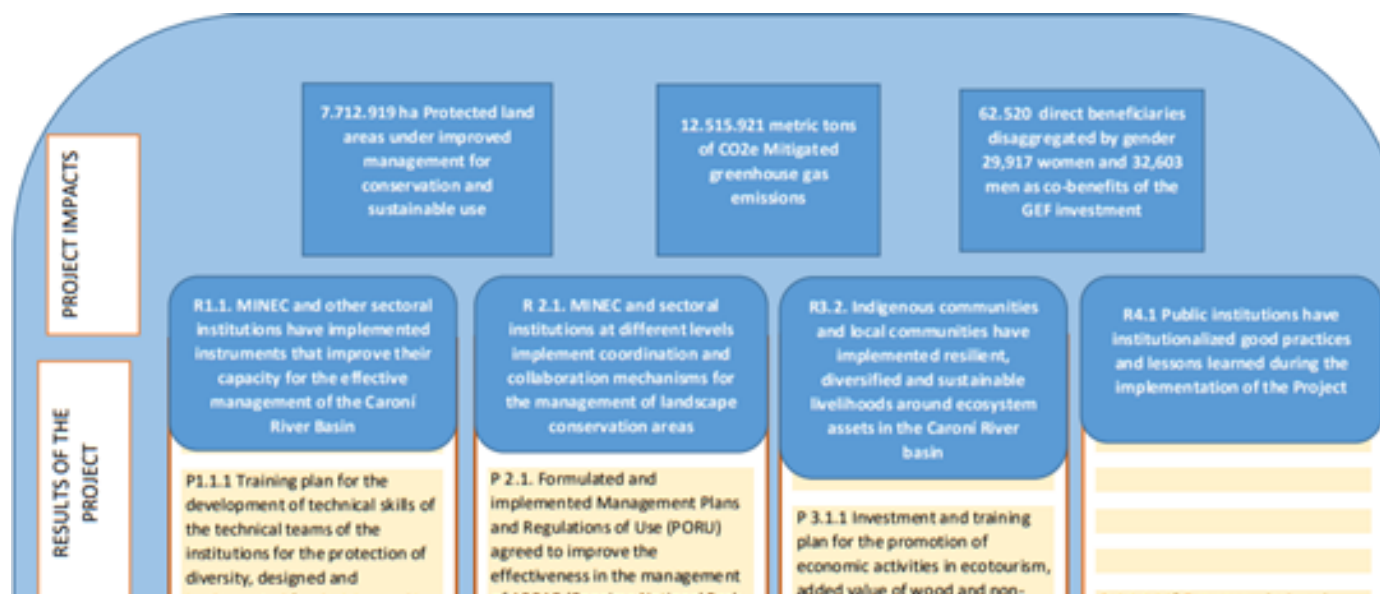
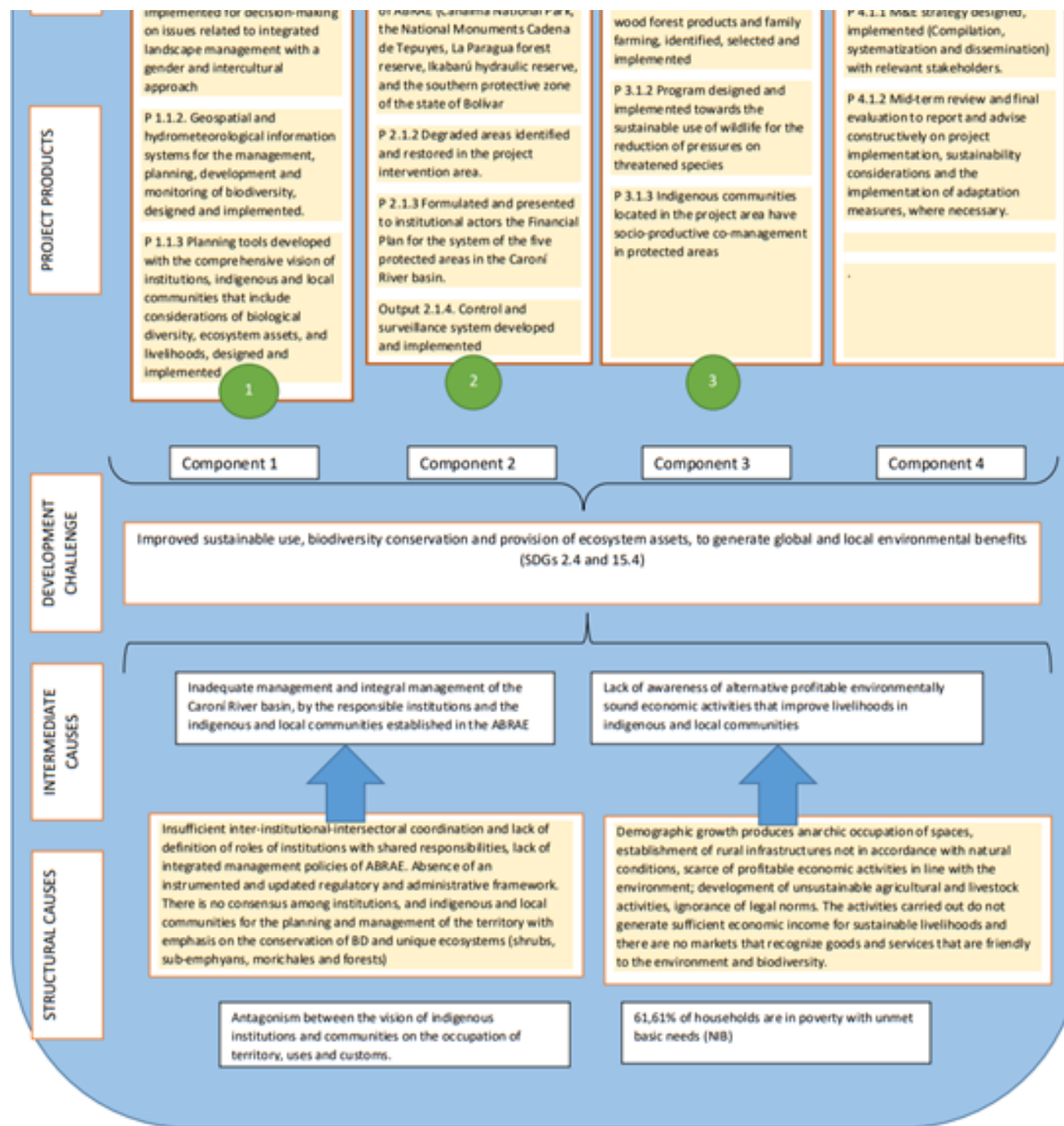


Figure 6. Problem Tree







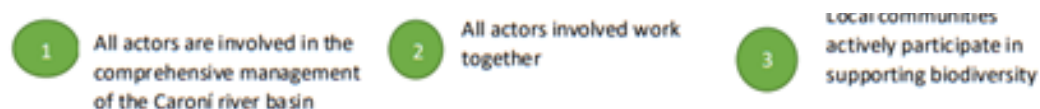


Figure 7. Theory of Change

**Component 1: Systemic and institutional capacity for sustainable management of the multiple-use landscape with a gender and intercultural approach.**

**Outcome 1.1** MINEC and other sectoral institutions have implemented instruments that improve their capacity for the effective management of the Caroní River Basin.

**Output 1.1.1.** Training plan for the development of technical skills of the technical teams of the institutions for the protection of diversity, designed and implemented for decision-making on issues related to integrated landscape management with a gender and intercultural approach.

71. The decision-making capacity of national and regional institutions will be strengthened through the provision of tools and specific training, focusing on planning, administration and management oversight of conservation areas in the project area. In addition, the project will support institutions (MINEC-INPARQUES, CORPOELEC, MinAguas, CVG) to strengthen their capacity for environmental monitoring and compliance in the prevention and effective management of unsustainable activities in the ABRAE and areas surrounding the conservation areas. In addition, inter-sectoral and inter-institutional participation and relationships will be promoted among stakeholders in the Caroní River Basin, especially private stakeholders as promoters of sustainable economic activities (tourism, trade of forest and non-forest products).

72. The participation of indigenous and local communities shall be promoted based on current Venezuelan legislation, as well as the strengthening of their capacities, the exchange of knowledge and their greater involvement in the co-responsible development of integrated landscape management through conservation, restoration and the development of sustainable productive activities that diversify and sustain their livelihoods.

**Output 1.1.2.** Geospatial and hydro meteorological information systems for the management, planning, development and monitoring of biodiversity, designed and implemented.

73. The GIS will allow inventories and classification of land and biodiversity resources in the study areas. It will present information on the location of critical habitats, establish thresholds for the use of natural resources (land, freshwater, forests), have indicators on ecosystem resilience, carbon stocks, impact of climate change. The GIS will not only document the status quo, but will also use landscape modeling and planning to develop optimal scenarios for landscape management, and will allow monitoring of threats to the state of the land, forests and biodiversity.

74. Through the GIS, the different ministries, INPARQUES and local authorities will be able to determine the location of critical habitats and endangered and threatened species, as well as the type of threats to which these habitats and species are exposed. In addition, through this product, information will be generated to determine the main land uses, and in particular, information will be generated to identify the role of ecosystem services, for which a detailed quantitative analysis of the environmental, economic and social benefits provided by ecosystems under environmentally unsustainable and sustainable scenarios will be carried out.

75. The geospatial system, once the project is completed, will be hosted and maintained by the relevant entities.



76. On the other hand, considering that there are 141 hydro meteorological and limnological stations (only 22 in operation) owned by CORPOELEC in the area, it will be necessary to evaluate those stations that are considered a priority to be rehabilitated by the institution, and if necessary, priority points will be determined for the installation of new sensors. Likewise, the possibility of rehabilitating the limnology laboratory for the study of physicochemical variables, flora and fauna associated with the water bodies of the Caroní River basin will be evaluated.

77. Finally, it will be necessary to verify that the data transmission system is operational, and if necessary, the access system will be improved so that the data can be used for predictive models.

Output 1.1.3 Planning tools developed with the integrated vision of institutions, indigenous and local communities that include considerations of biological diversity, ecosystem services, and livelihoods, designed and implemented.

78. The project will help the five ABRAEs improve their performance based on the development of site-specific theories of change that are better coordinated with the management tools of the multiple multi-sectoral institutions to guide the allocation of resources from an integrated approach to the landscape. For this purpose, training will be provided, as well as supplies and equipment, and an evaluation will be made of which of the institutions' camps in the watershed support monitoring, fire control and community management activities, and which need to be strengthened to improve their operation.

79. Changes in these aspects will be measured using the GEF Management Effectiveness Tracking Tool (METT) and will be included in the project M&E reports. Annex E of the Agency Document presents the pre-assessment conducted for each of the 5 ABRAE.

## **Component 2 Integrated Landscape Management**

**Outcome 2.1 MINEC and sectoral institutions at different levels implement coordination and collaboration mechanisms for the management of landscape conservation areas.**

**Output 2.1.1 Formulated and implemented Management Plans and Regulations of Use (PORU) agreed to improve the effectiveness in the management of ABRAE (Canaima National Park, Cadena de Tepuyes National Monuments (MN), La Paragua forest reserve, Ikabarú hydraulic reserve, and the southern protected area of Bolivar State).**

80. Based on the shared vision of the interested parties, the project will support the formulation of the Use Management and Regulation Plans (PORU), in the five ABRAE, which need to be ordered, through a spatial planning process, being the operative instrument used in Venezuela for this purpose, the so-called Plan of Ordering and Regulation of Use (PORU), known internationally as the Management Plan.

81. The PORUs establish the guidelines, directives and policies for the administration of the corresponding area, as well as the orientation for the allocation of permitted uses and activities[13]. These application instruments are short and medium term with a view to achieving a long-term objective image and contain proposals for the allocation of uses aimed at: promoting the rational use of the natural resources existing in that spatial area, the recovery of degraded areas and the improvement of the living conditions of current and future inhabitants.

**Output 2.1.2 Degraded areas identified and restored in the project intervention area.**

82. The project will reforest and restore<sup>[14]</sup> areas considered degraded, especially areas of greatest conservation concern, landscape fragmentation, and key biodiversity areas. Emphasis will be placed on good practices for the protection, sustainable management and rehabilitation of forests, shrubby areas and natural grasslands. Initially, work will be done with those areas already identified, which have been degraded by fires, deforestation for conucos and unauthorized mining, then during the implementation of the project with the support of the information generated in product 1.1.2, new areas may be incorporated based on their conservation priority. The project, together with the different institutional and community actors, will develop actions depending on the type of coverage: natural pasture management, sustainable forest management and sustainable land management (analog forestry, agroforestry system and reforestation).

Table 9. Estimates of the area to be restored and reforested

Restoration practices and methods	Estimated area (ha)
Natural pasture management*	11,349
Analog forestry, and reforestation**	2,000
Agroforestry system**	1,000

\* Area natural pasture burned in the intervention area of the Caroní River basin

\*\*Data taken from Annex F

83. Such restored communities will be integrated into existing mature communities, thus increasing the size of the ecosystem area to be conserved, serving as a connectivity factor between isolated fragments of such ecosystems, or spatially integrating processes that had been disconnected by anthropogenic interference.

84. The Project, together with CORPOELEC, will develop plans, programs and projects in its area of influence (upper Caroní river basin) to replicate the best agroecological practices and the sustainable development of the Caroní river basin.

#### **Output 2.1.3. Formulated and presented to institutional actors the Financial Plan for the system of the five protected areas in the Caroní River basin**

85. The integrated landscape management of ABRAEs will necessarily be supported by actions to promote its financial sustainability. The project will address this challenge, on the one hand, by helping PA supervisors optimize the use of funds that are available and, on the other hand, by increasing and diversifying revenues.

86. As already explained in the barrier analysis section, the financial resources allocated for PAs are neither adequate nor commensurate with the relative needs and conservation priorities of individual PAs. The project will therefore support the development of ABRAE financial plans to address these constraints. Initially, the characterization and quantification of current financial flows is essential in this process; this involves a detailed analysis of the financial situation of each of the main institutions included, resulting in an estimate of the proportion of the general budgets that are dedicated to each specific PA. This process will also lead to recommendations for improved accounting procedures that will allow institutions to update these analyses in the future.

87. These plans shall include at least the following: i) analysis of the needs, gaps and financial administrative system of the PAs, where the income and its variation over a period of time should be analyzed. For this, it is necessary to compare the current available resources with the resource needs (human and financial), both in a basic scenario (essential management programs that focus on preventing the deterioration of biodiversity) and in an optimal scenario (composed of management programs that are aimed at optimizing conservation initiatives); ii) Identification and quantification of potential sources of revenue (e.g., user fees, concessions, grants, and government budget); (iii) Formulation of financial and business plans.

88. The project will make it possible to raise awareness, defend interests and negotiate with representatives of entities from productive sectors (e.g. tourism, forestry, agriculture, trade, mining), which will lead to the establishment of partnerships that will lighten the financial burden of PA management by government institutions. The project will also generate and distribute information (Strategic Communication Plan) that will improve understanding of the role of PAs as key instruments of national development policies, which is expected to result in a budget increase in the resource allocations that PAs receive from government institutions. Finally, the project will help PA supervisors to take advantage of opportunities to generate local revenue, for example, by charging entrance fees, concession fees to companies that receive financial benefits from the use of protected areas, such as hotels and tour operators, as well as contributions from water concessions for watershed conservation, established in the Law on Water and incentives, and payments for economic benefits that are generated from forest management on the natural resources of the forest.

89. Once the formats for financial plans have been developed, they will be integrated into the management of PA, thus ensuring that financial and operational considerations are taken into account in an integrated manner. The project will strengthen the capacities of staff throughout the PA system that will allow them to optimize the use of the funds they have at their disposal and in the same way monitor the effectiveness of their use, in addition to the trainings will allow them to draw up plans on their own after the completion of the project.

#### **Output 2.1.4. Control and surveillance system developed and implemented**

90. The management of the PAs will be improved through the definition of the control and surveillance plan that will define the set of measures and actions that will be adopted to protect, conserve and monitor the integrity of cultural and biological diversity and other resources present in the set of protected areas. This activity seeks to strengthen the enforcement of regulations established in the PORU, in addition to reducing the pressures and threats identified, the integration of conservation and economic development considerations, which is particularly relevant given the conflicts over activities in the Caroní river basin. Particular attention will be given to the identification and development of opportunities through corporate environmental and social responsibility schemes, and sustainable forms of production such as tourism. Also, the improvement in the management of the officials directly responsible through the incorporation of communities and other actors in the monitoring and valorization of biological diversity, in addition to having permanent and updated information for timely decision-making about control and surveillance actions that allow reducing illegal activities within protected areas.

91. The project will support the incorporation of quantitative and verifiable variables about the status of conservation objects and the evaluation of management structures for PAs, based on their representativeness of ecosystems, using the METT monitoring tool among other proposals.

### **Component 3: Diversified livelihoods in indigenous and local communities for sustainability in landscape management.**

**Outcome 3.1 Indigenous communities and local communities have implemented resilient, diversified and sustainable livelihoods around ecosystem services in the Caroní River basin.**

### **Output 3.1.1 Investment and training plan for the promotion of economic activities in ecotourism, added value of wood and non-wood forest products and family farming, identified, selected and implemented.**

92. The project under the application of the Free, Prior and Informed Consent (FPIC) in the formulation stage of the project, will continue with the support of the participation of the Captains of the communities, the Council of Captains and the Indigenous Federation of Bolivar State to implement the participatory mapping tool at the level of each community, to build the social and spatial reality of the various indigenous and local communities. This information, combined with the technical information gathered by the institutions, will allow the elaboration of an indigenous concept of sustainability and an alternative development model.

93. To alleviate the pressures of indigenous and local communities on natural resources, alternative livelihoods will be promoted through the project. The use of the participatory mapping tool, in addition to gathering territorial information from the communities, will allow for a self-diagnosis to jointly evaluate sustainable productive alternatives based on the production and value-added use of goods and services generated from biodiversity, thus contributing to improving the livelihoods of the communities. GEF's alternative financial and technical support will strategically focus, together with the communities, on: identifying, analyzing and implementing schemes for sustainable use of natural resources. This will increase opportunities for sustainable nature-based income-generating activities to increase household incomes and reduce vulnerabilities. In order to contribute to improve ecosystem productivity, protect key species and habitats, maintain ecosystem functioning, and improve the socio-economic conditions of natural resource-dependent communities.

94. The activities identified should be balanced, both in the use of resources and in the generation of benefits. Possible options include: a) ecotourism development, including supporting infrastructure; b) nurseries for useful, ornamental, timber and non-timber plants and orchards; c) processing and marketing of useful plants, timber and non-timber resources; c) handicrafts and the like. Increased income will help indigenous and local communities to establish or expand sustainable businesses, which is key to the successful management of conservation areas.

### **Output 3.1.2 Program designed and implemented towards the sustainable use of wildlife to reduce pressure on native species for traditional consumption**

95. Wildlife is a transcendental resource for the maintenance of a large part of the material and cultural needs of the indigenous and local communities of the region, so generation after generation they have developed and enriched a cognitive system that today allows them to use in a multiple way the plant and animal species of the natural environment. According to research by Ferrer, Lew, et al (2013) in order of importance, the animal species with the highest consumption per hunt are: white cheekbachio (*Tayassu pecari*), peccary (*Pecari tajacu*) danto (*Tapirus terrestris*); limpet (*Agouti paca*) and locho deer (*Mazama americana*); birds: white ass paují (*Crax alector*), Paují red ass (*Mitu tormentosa*) and cracking turkey (*Pipile pipile*); and fish: morocoto (*Piaractus brachypomus*), bocachico (*Semaprochilodus kneri*), striped catfish (*Pseudoplatystoma metaense* and *Pseudoplatystoma orinocense*). As for the plant species of the moriche palm (*Mauritia flexuosa*)(García, 2000), the staple food is extracted from their daily diet, the sago or starch and the rest of the seus leaves are used for the elaboration of handicrafts.

96. Under this perspective, the program seeks to provide elements that contribute to the sustainable use of wildlife, through an adequate management that achieves according to the needs to maintain, increase, stabilize a population of wildlife so that these actions impact on the conservation, control, reproduction or sustainable use. Therefore the central objective of this programme is to reduce threats to biodiversity by reducing pressure on wildlife and providing a healthy and sustainable alternative to indigenous and local communities.

97. Included in the first instance are the development of pilot management experiences with native species of traditional consumption such as: deer (*Mazama americana*) and peccary (*Pecari tajacu*) that have been affected by the reduction of individuals in the area, as well as the development of backyard birds, implementation of meliponarios for the production of honey from bees with native species among other options.

98. Together, the project and the identified indigenous and local communities will conduct a participatory analysis on the feasibility of implementing pilot farms with native species of traditional consumption such as deer (*Mazama americana*) and peccaries (*Pecari tajacu*) that have been affected by the reduction of individuals in the area. Once the species have been selected and with the experience of the communities, the community farms will be designed and implemented. The objective will be the consumption and improvement of the protein level in the daily diet, favoring the food security of the local population, while reducing the pressure on the wild populations of these species.

99. Likewise, the sustainable management of the morichales (species of palm tree) (*Mauritia flexuosa* and associated species) and the diverse uses that the indigenous and local peoples give to the different organs of the palm (leaf, stem and fruit), have been essential in their culture, called the tree of life, will be evaluated. The objective is to expand the information on the ethnobotany of the palms, in order to unify knowledge to generate key aspects for future strategies that can be used for the development of management and conservation plans with sustainable and adaptive community activities. Ensuring on the one hand the maintenance of the forest resource and on the other hand, the diversification of the use of other non-traditional products that support the livelihood of local populations. Likewise, the promising products obtained from the management of the morichales will be commercialized through the PAE, generating new sources of income for the indigenous and local communities.

#### **Output 3.1.3 Indigenous communities located in the project area have socio-productive co-management in the protected areas.**

100. The indigenous communities within the framework of product 1.1.1, in accordance with Venezuelan legislation in force, will establish alliances with the State (and the private sector when applicable) for forestry, ecotourism and agro-productive co-management (including agroforestry systems, fishing and artisanal aquaculture) in the project intervention area, diversifying and strengthening their livelihoods.

### **Component 4: Monitoring and Evaluation (M&E) based on the principles of adaptive management, delivery of measurable and objectively verifiable results, and dissemination of good practices and systematized lessons learned.**

101. Based on the objectives, indicators and targets established in the project's results framework, the adaptive management measures applied in the ABRAES under the integrated landscape management model will be monitored to balance biodiversity conservation objectives with local and national economic development needs. Also, to value and validate traditional ecological knowledge, in line with indigenous property rights and their resource management systems and institutions relevant to conservation objectives. On the other hand, information disaggregated by gender will be generated from the indigenous and local communities and authorities, which will allow timely and corrective decisions to be made based on the level of project performance and risk situations regarding the proper implementation of the work plan. It is expected that the monitoring system will enable lessons learned from the implementation of the project and the permanent recording of information.

#### **Outcome 4.1 Public institutions have institutionalized good practices and lessons learned during the implementation of the Project.**

102. This output will focus on ensuring, monitoring, evaluation, compilation and dissemination of lessons learned to guide adaptive management, under a gender perspective and promoting the adoption of successful approaches and best practices.

103. The information resulting from the M&E system will be disaggregated by gender, age group, indigenous or local community, and municipality, in order to report and make visible the role of women, intersectionality and interculturality in the project and its contribution to biodiversity conservation. The monitoring system will also generate information on the level of participation of women in the different activities provided by the project.

104. Based on the gender analysis and action plans to be developed during the ProDoc design phase, the project will ensure that decisions made and interventions proposed for implementation take into account the potential impacts and outcomes for different groups within society, with a particular focus on the roles played by men, women and youth. In addition, the project will establish a Monitoring and Evaluation system that has a participatory approach, thus involving all relevant stakeholders.

**Output 4.1.1 M&E strategy designed, implemented (compilation, systematization and dissemination) with relevant stakeholders.**

105. A project Monitoring and Evaluation (M&E) system will be developed based on the indicators and targets outlined in the project's logical framework. This system will track the development objective (impact) and component (process) indicators of the logical framework and will be based on project level information. It will also provide evidence that the project is meeting the stated objectives and associated results, which will be presented to partners and stakeholders (GEF, FAO, MINEC, CORPOELEC, CVG, MinAgua, MPPI, indigenous and criollo communities) through periodic M&E reports on implementation.

106. The project will establish multiple platforms for sharing experiences, knowledge and skills among project beneficiaries as well as within the institutions in charge of resource management in the landscape. In addition, the project will ensure systematic and comprehensive documentation and compilation of lessons learned from project implementation, and share this learning/knowledge with other stakeholders beyond the project, including at the national level, with policy makers and at the regional and global levels with other similar projects/programs.

107. The project will develop knowledge products and conduct analysis and systematization of specific results, best practices and lessons learned from the project and share them in local, regional and global workshops and conferences, as well as through other forums, platforms and communication and dissemination tools. This includes documenting the ancestral knowledge that members of indigenous communities have of natural resources and ecosystem functions and dynamics, as well as management practices, beliefs, traditions and related organizations that are passed down from generation to generation.

**Output 4.1.2 Mid-term review and final evaluation to constructively inform and advise on project implementation, sustainability considerations and the application of adaptation measures, where necessary.**

108. The mid-term review (MTR) will be conducted no later than three years after the start of the project and will assess the progress of each activity, output and outcome of the project and the achievement of the indicators presented in the results framework and the multi-year work plan developed in PRODOC. This evaluation will also assess the disbursement of financial resources and co-financing provided by the project partners, as well as monitor and evaluate the administrative aspects agreed between FAO and MINEC for the implementation of the project. The RMT will also report on the adaptive management of the project and make recommendations to improve its implementation for the remainder of its duration.

109. The Terminal evaluation (TE) aims to assess the implementation of all activities foreseen in the project, as well as the allocation of GEF resources and their disbursement and expenditure in accordance with GEF and FAO policies and standards, and in accordance with the description of activities. The TE will serve to extract and identify lessons learned, disseminate them in an efficient manner and make recommendations to ensure the sustainability of project results.

**4) Alignment with GEF focal area and/or impact program strategies.**

110. This project is aligned with the Biodiversity Focus Area Strategy and its Biodiversity Strategy, which has the following objectives.

111. BD1-1 Integrate biodiversity in all sectors as well as in landscapes and seascapes by integrating biodiversity in priority sectors. The project proposes an integrated approach to landscape management within protected areas that harmonizes sustainable development with conservation, incorporates environmental considerations into economic sectors, promotes planned land use and restoration of degraded areas, and establishes collaborative, participatory, public-private partnerships and decision-making mechanisms with community participation.
112. BD1-5 Integrate biodiversity in all sectors, as well as terrestrial and marine landscapes through inclusive conservation. This approach proposes integrating and strengthening sustainable livelihoods and the protection of ecosystem services in the Caroní River basin, considering the concept of "landscape", which integrates all present land uses and includes areas of crops, pastures, forests, sub-tepuian shrub lands, morichales and watersheds. The approach proposes to connect biological diversity with sustainable use under the precepts established by the indigenous peoples settled in the region. In this way and in an inclusive and participatory manner, pilot projects for the sustainable use of wildlife will be identified, analyzed and implemented.
113. BD2-7 Address direct drivers to protect habitats and species and improve financial sustainability, effective management and ecosystem coverage of the overall protected area. The project has identified the direct drivers of the loss of biodiversity and unique ecosystems present within the project intervention area, 97.62% of which is covered by ABRAE, where there is the presence of various public and private organizations, as well as indigenous and local communities. The project will establish a basis for exchange among stakeholders that, together with the support of technical and legal tools, will enable ABRAE management and their financial sustainability.

#### **5) Incremental/additional cost reasoning and expected contributions from baseline, GEF, LDCF, SCCF and co-financing.**

114. The GEF grant will provide the necessary incremental investments that would be more difficult to obtain through governmental or non-governmental budgetary sources for coordinated investments in technical production; organizational capacity building and organizational coordination; development of the public-private programs necessary to achieve sustainable conservation of the biological diversity of the ABRAE of the Caroni River Basin, and to improve the livelihoods of the indigenous and local communities of the Guayana region. The GEF funding proposal will complement the counterpart investment resources provided by the Government of the Bolivarian Republic of Venezuela (GoBV) that have been allocated to the region to continue supporting its achievements.
115. Estimates for ecosystem protection in the selected areas, both in quantity and quality, included in the project area are below the international levels proposed by the IUCN. Many critical ecosystems are threatened by unsustainable development, including human settlements, tourism, mining, and infrastructure. Under this scenario, habitats will continue to shrink and viable populations of endangered species will slowly disappear without the incremental investments needed to boost alternative livelihoods and systems that are friendly and compatible with biodiversity conservation.
116. By working with local communities on a small scale, the project will benefit indigenous and local communities in the Caroni River basin through the sustainable use of their natural resources to overcome poverty, while maintaining or improving conditions for biodiversity conservation.
117. The investment will also help establish a framework for channeling ongoing investments and leveraging new investments in biodiversity conservation and sustainable livelihood management for local and conservation communities in the country, which could generate greater economic stability to complement the substantial social and environmental gains obtained through previous GEF and GoRBV conservation projects.
118. On the other hand, non-governmental efforts to promote sustainable production are scattered and small-scale. However, innovative investments are needed to scale up initiatives and develop new opportunities to improve their livelihoods.

119. In summary, the base scenario together with the GEF alternative has a total cost of US\$ 51,060,601, of which the resources contributed by the GEF (US\$ 8,510,118) represent 16.67%.

	Category of Cost	Benefits National	Benefits Global
1. Systemic and institutional capacity for the sustainable management of the multiple-use landscape with a gender and intercultural approach.	Scenario base (Gd RBV)	<p>Implementation of integrated programs for capacity building of institutions in integrated landscape management and livelihood improvements.</p> <p>Strengthening of the institutional capacities of the stakeholders involved to carry out monitoring, evaluation and follow-up of sustainable and BD-friendly practices in the Caroní River basin.</p> <p>Raising awareness of the inhabitants of the intervention area about the conservation of biological diversity and the sustainable use of natural resources.</p> <p>The sustainable development policy and the shared vision of the use of natural resources and ecosystem services by the stakeholders of the Guiana region reduce the elements that threaten biodiversity</p>	<p>Training and more efficient performance of government officials at the central, state, municipal and local community levels.</p> <p>Strengthening social capital will be a cornerstone of the project and will help communities improve their governance, foster community participation, reduce conflicts, and increase their income through better forest management and profit generation.</p> <p>Area under biodiversity-friendly production and sustainable use providing overall environmental benefits, such as maintaining vegetation areas that provide habitat connectivity, contributing to water absorption and decreasing erosion processes in the upper reaches of the Caroní and Paragua river basins.</p> <p>The project will install continuous actions for conservation and sustainable use that will guarantee the conservation of globally significant biological diversity.</p> <p>The project responds to overcoming possible tensions at the social, economic, environmental and political-institutional levels and finding agreements between productive interests and objectives and the conservation of the ecosystem, for biodiversity and to guarantee the promotion of sustainable livelihoods in the Guiana region.</p>



2. Integrated landscape management	Scenario base (Gd RBV)	<p>Existing ecosystem services in the project landscape have been valued, thus identifying reinvestment mechanisms derived from the uses of the Caroní River basin, such as tourism, water and electricity production.</p> <p>Shared vision of the local and global ecosystem services that generate systems of protected areas in the Caroní River basin.</p>	<p>Legislation is in place to facilitate the improvement of ABRAE management and financing.</p> <p>This would include the formulation of the PORUs, regulations and the adoption of an updated global strategy detailing the processes covering the system and its administrative direction. Sharing the vision and responsibilities of PAs with all relevant stakeholders, including Ministries, regional governments, municipalities, private landowners, concessionaires and co-managing Non-Governmental Organizations (NGOs) and Indigenous and local communities.</p> <p>Activities are implemented to improve the effectiveness of ABRAE management, as well as their monitoring and control.</p> <p>Expanded restoration program in degraded priority areas explicitly designed to address biodiversity conservation in protected areas, as well as the integration of biodiversity criteria into regular government programs and projects in the Guiana region.</p>
3. Diversification of livelihoods in indigenous and local communities for sustainability in landscape management.		<p>Indigenous and local communities adopt sustainable livelihoods. Communities meet their needs in terms of sustainable and integrated natural resource management.</p> <p>New sustainable productive activities improve the</p>	<p>The project generates significant and sustainable benefits for the indigenous and local population. The promotion of livelihoods contributes to conservation, while generating concrete economic benefits for the beneficiary populations, motivating them to manage and protect their natural resources.</p> <p>Productive activities, particularly those rel</p>

		<p>e activities improve the poverty rates of local communities.</p>	<p>Productive activities, particularly those related to sustainable agriculture, promote the growth of the rural economy and poverty reduction.</p> <p>Promoting productive diversification and the implementation of good biodiversity-friendly practices.</p>
<p>4. Monitoring and Evaluation (M&amp;E) based on the principles of adaptive management, delivery of measurable and objectively verifiable results, and dissemination of best practices and systematized lessons learned.</p>	<p>Scenario base (Gd RBV)</p>	<p>Strengthening of local, regional and national M&amp;E systems of socioeconomic and environmental results resulting from planned investments.</p> <p>Development and implementation of strategies for Information and Communication Management for Rural Development, in order to systematize and disseminate results achieved, good practices, experiences and lessons learned.</p>	<p>Improved understanding of the socioeconomic and environmental benefits of mechanisms based on the implementation of sustainable practices and livelihood improvements to promote biodiversity conservation.</p> <p>Learning generated by the program is considered in programming or planning related investments around the world</p>

#### **6) Global environmental benefits (GEFTF) and/or adaptation benefits (FPMA) /SCCF)**

120. According to the information presented in the baseline, Venezuela's biodiversity, specifically in the Guiana Massif, is of worldwide importance. The wide variety of biomes present, especially the Tepuian Mountain System, which is unique in the world, make this landscape home to a great variety of biodiversity. Recognizing its importance, in 1994, Canaima National Park was named a UNESCO World Heritage Site because it is a natural reserve with special and unique abrupt reliefs. There are 72 species of mammals, 175 birds, 29 reptiles and 28 amphibians, which together represent 12.5% of the country's species. At the same time, the landscape presents an important cultural richness, as it is home to 379 indigenous communities, most of them belonging to the Pemón people, whose territories are threatened by the effects of contamination of the air, water, land, soil quality, vegetation, and human health.

121. Although most of the landscape (97.62%) is protected in the ABRAE: Canaima NP, MN Cadenas de Tepuyes, RF La Paragua, RH Ikabarú and the southern Bolivar State Protected Zone, the imminent threats (anthropogenic interventions) to which it is exposed put at risk the conservation of biological diversity and the permanence of the indigenous peoples, which is why the project aims to cover 7,712,919 ha of terrestrial protected areas under improved management (GEF Core indicator 1) for conservation and sustainable use and the restoration of 14,349 ha of degraded lands. As these hectareas are contained inside the surface of the protected areas, they are being considered as part of GEF Core indicator 1.

122. The project's main global environmental benefits are 7,712,919 hectares of terrestrial protected areas under improved management for conservation and sustainable use. The project will mitigate greenhouse gas emissions by 12,515,921 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e), as shown in Annex F. The estimate of carbon dioxide equivalent emissions assumes that: 1) 2,000 ha are restored with the establishment of plantations and the natural recovery of scrubs and grasslands; 2) 1,000 ha through agroforestry systems; 3) different strategies reduce deforestation by about 6% during the 2022-2042 period.

123. This project, financed by the GEF, seeks to provide integrated landscape management with the inclusion and participation of the various stakeholders present in the intervention area. To this end, an innovative approach is proposed, which includes: (i) by law<sup>[15]</sup> the full recognition of indigenous rights, (ii) the intercultural dimension to structure a sustainability discourse, from indigenous and western thinking, as a basis for building the context, convergence and motives for a common conservation agenda, (iii) balancing biodiversity conservation objectives with local and national economic development needs, iv) valuing and validating traditional ecological knowledge, as well as defending indigenous property rights and their resource management systems and institutions relevant to conservation objectives, and v) creating new institutional arrangements for natural resource management that allow for the participation of all. In this way, the project's actions will benefit 62,520 people represented by 29,917 women and 32,603 men (including indigenous and local populations). (GEF Core indicator 11)

124. This involves improving systematic and institutional capacity for the sustainable management of the multiple-use landscape, implementing activities for integrated landscape management, and developing sustainability frameworks. This approach will involve all stakeholders: public and private institutions, indigenous and criollo communities, authorities and NGOs. The global benefits resulting from this support will consist of having quality information to monitor biodiversity and, in turn, influence planning and decision making for its conservation. Therefore, natural resource management will be improved through the strengthening of the ABRAE present. Likewise, working together with indigenous and local communities to diversify and strengthen sustainable livelihoods will promote their involvement in the care and protection of ecosystems from a shared vision. Finally, it is hoped that these improvements will be sustainable in the long term through the recognition of all stakeholders.

## **7) Innovation, sustainability and potential for scaling up.**

125. **Integrated scenarios for landscape management:** This is the first time that territorial and environmental planning is being carried out in the Guayanés Massif and in the Caroní River basin. The integrated approach of conserving the basin's ecosystem services will not only conserve biodiversity, but will also ensure water resources for power generation and promote actions to reduce the impact of illegal mining, which is highly innovative in the region.

126. **Sustainable livelihoods:** The project will introduce an integrated approach to forest use and management. This integrated approach will support natural regeneration and other restoration techniques to address various forms of degradation. The project will introduce sustainable livelihood practices, involving indigenous and criollo communities. Thus, under Component 2, the project will implement specific approaches to test restoration options for highly degraded lands.

127. **Sustainability:** To ensure the sustainability of landscape management initiatives, the project will actively develop and maintain broad-based relationships and partnerships that promote collaboration. Community ownership is a critical factor contributing to the sustainability of project benefits, so from the outset all community members (men, women, youth and elders) will be involved in all stages of the grant project cycle: design, implementation, monitoring and evaluation. In addition, the sustainability of landscape planning and management processes will be enhanced through the formation of multi-stakeholder partnerships, involving local government, national agencies and institutions, NGOs, the private sector and others at the landscape level and the adoption of multi-stakeholder partnership agreements to achieve specific landscape-level outcomes. NGO networks will be solicited to support communities and landscape planning processes, and technical assistance will be provided through government, NGOs, universities, academic institutes and other institutions.
128. Financial sustainability will be promoted through the actions proposed in Outcome 2, which is specifically related to this topic. This output includes the development of financial plans and strategies for the ABRAE system of the Caroni River Basin, mechanisms for financial planning of individual ABRAE, financial resource management mechanisms and capacities, and mechanisms to increase and diversify income in the ABRAE.
129. To achieve social sustainability, the project will use participatory approaches based on a diagnostic approach, where tensions, emerging problems, favorable situations and possibilities for sustainability are recognized. As well, a gender action plan will be carried out that will allow considering, addressing and contributing to the reduction of the existing gaps between men and women, boys and girls, adults, older adults and young people, through concrete actions and avoiding any action that increase these gaps. The project will design activities to strengthen the voice and leadership of women in the areas of influence. This gender action plan will become a transversal instrument that will be implemented throughout the preparation, implementation and supervision of the project, ensuring that all objectives, components and activities will be carried out following this gender approach.
130. The stakeholder engagement process will be encouraged during all phases of the project. Participatory planning processes will underline the need to adopt actions and measures that consider the differences and inequalities between certain populations (for example, indigenous and local communities) to ensure the protection of their rights. The project will promote the creation of community networks for knowledge exchange between older community members and youth, and between communities. Through the use of a participatory approach, the project will adopt mechanisms that promote interest, motivation and ensure trust, providing a favorable environment for multicultural social equality and leading to the elimination of dispositional, physical and communication barriers. This proposal will be based on the communicational and dialectical development with the communities.
131. Sustainability of livelihoods. Community ownership is a critical factor contributing to the sustainability of project benefits, so from the outset all members of the indigenous and local community (men, women, youth and elders) will be involved in all stages of the grant project cycle: design, implementation, monitoring and evaluation. The project will contribute to the financial sustainability of the watershed through participatory development of management tools, sustainable resource use and effective management. The project will promote sustainable production systems that aim to conserve and manage ecosystem services over the long term and improve local livelihoods. These plans will include a technical support strategy and capacity building. Community-based nature tourism initiatives will also be strengthened through Component 3. This will generate new jobs in the target communities and supplementary income for local households participating in the project. Ecotourism actions will also contribute to the long-term conservation and sustainable use of biodiversity.
132. **Potential for improvement:** The involvement of indigenous communities in this project, in relation to the promotion of sustainable alternative livelihoods, opens a wide space to enhance the improvement of the project, through the participation of indigenous and local communities who know their territories best and can propose options according to their reality. The participation of different stakeholders will make it possible to continue identifying

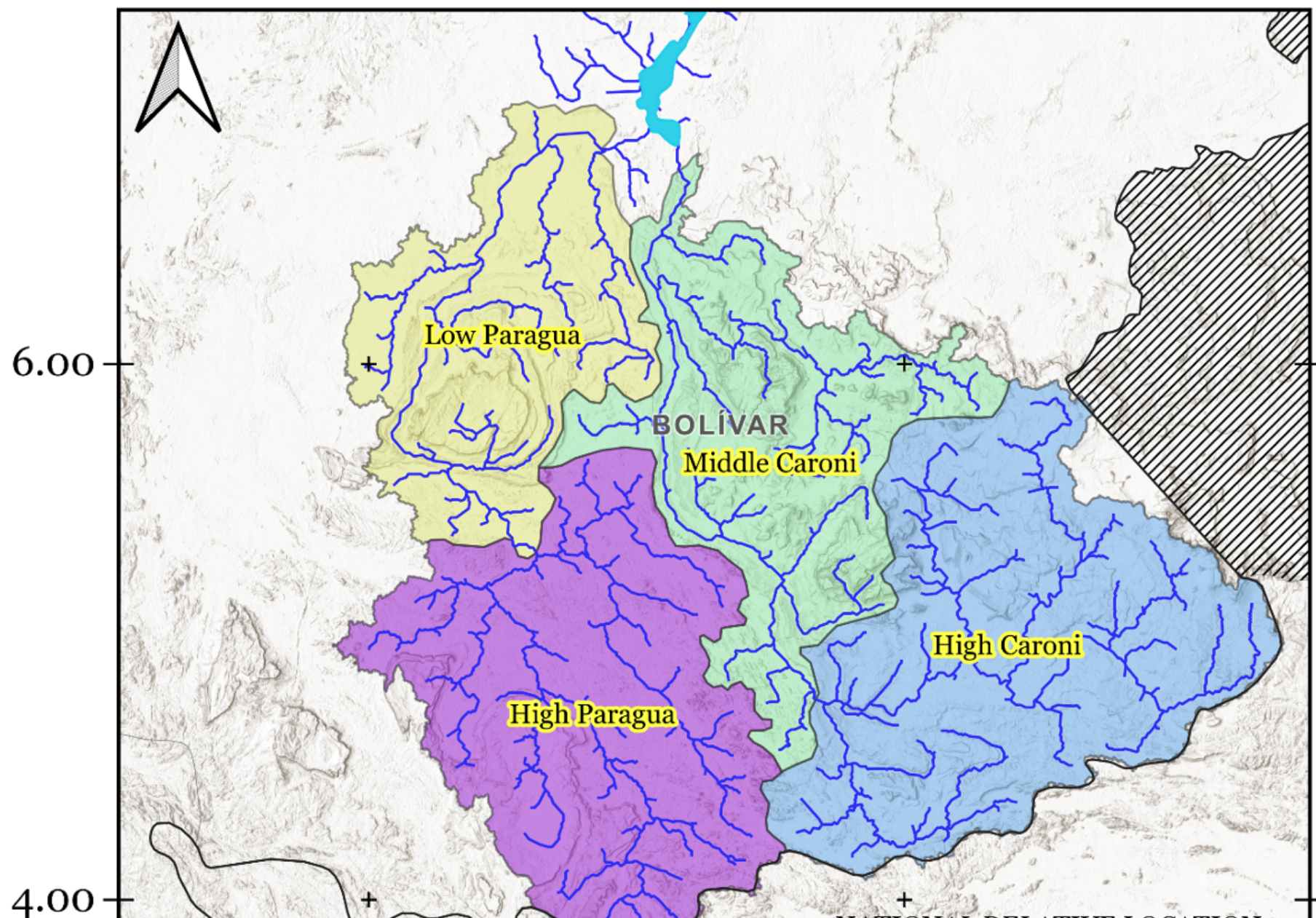
potential opportunities for improvement, analyzing and planning improvement processes, as well as identifying financing mechanisms to improve the project through the management of conservation areas. In addition, Component 4 will evaluate its performance and impacts to systematize and disseminate best practices and lessons learned in adaptive management, as well as the discussion and evaluation of potential replication sites for the project.

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- [1] The project area corresponds to the upper and lower basin of the Paragua River and the upper and middle basin of the Caroni River.
- [2] Derived from the ESA-CCI LC global land cover product (<https://maps.elie.ucl.ac.be/CCI/viewer/>).
- [3] [Canaima National Park](#) ». *portal.unesco.org*.
- [4] Official figures from the latest population census in Venezuela
- [5] Unsatisfied Basic Needs: it is the situation of those households that are unable to gather in a relatively stable manner the necessary resources to satisfy the basic needs of their members. They include: school attendance, housing conditions (structure and services), education of the head of the family and economic dependence. Only applies to households residing in family dwellings
- [6] Sector VII Ikabarú, Gran Sabana municipality, Bolívar state. It benefits a population of 4,650 indigenous people and a final area of 597,982.87 ha
- [7] The conuco is a migratory cultivation system, established for the self-sufficiency of the families and sometimes the surplus is sold, it is worked by all the members of the family, constituting a family asset. Provide in addition to food, medicinal plants and spices.
- [8] Official Gazette 6526 of 07-04-2020, Resolution No. 0010 authorizes free mining in sectors of the Caroní, Caura, Cuyuni, Cuchivero and Aro Rivers (MIDME).
- [9] Sector VII Ikabarú, Gran Sabana municipality, Bolívar state. Benefits a population of 4,650 inhabitants and final surface area 597,982.87 ha. (MPPPI 2016)
- [10] Wataniba, "We have a direct relationship with the environment and we can be the ones to provide the world with the options to protect it." at <http://bit.ly/2TcjCVh>
- [11] It is an international right, particularly in the jurisprudence of international human rights organizations and in accordance with the Convention on Diversity.
- [12] It is a set of customs, practices and beliefs accepted as mandatory norms of conduct for a community. It is an intrinsic part of the social and economic systems and way of life of indigenous peoples and local communities.
- [13] Article 17 of the Organic Law for the Planning of the Territory Official Gazette No.3.238 - Extraordinary, of August 11, 1983
- [14] Ecological restoration aims to initiate or accelerate the processes of a degraded, damaged or destroyed area in relation to its function, structure and composition. Rehabilitation aims to repair productivity and ecosystem services in relation to functional or structural attributes. The recovery aims to return the usefulness of the ecosystem for the provision of services different from those of the original ecosystem, integrating them ecologically and landscapely into their environment.
- [15] Constitution of the Bolivarian Republic of Venezuela (1999), in the Organic Law of Indigenous Peoples and Communities (2005)



## 1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



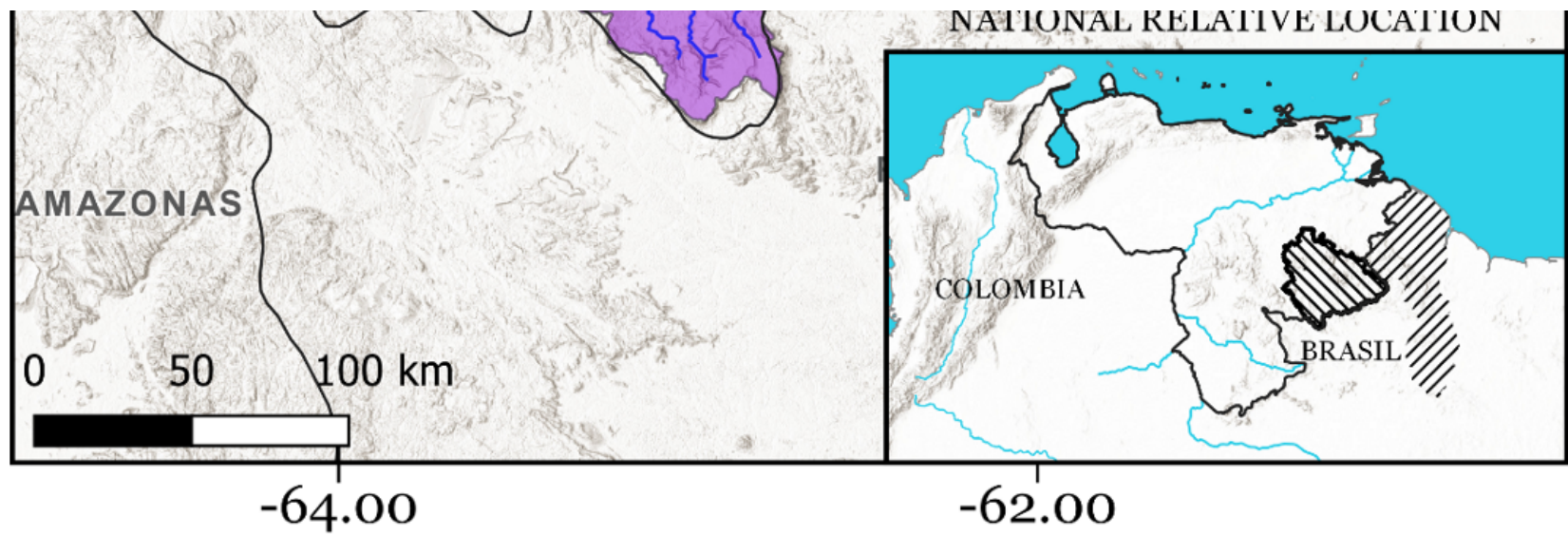


Figure 8. Project intervention area



## 2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

N//A

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement

Table 10. List of potential stakeholders to be engaged in project preparation

Institution	Role in the Project
<b>Ministry of People's Power for Eco-socialism (MINEC):</b> It is the competent body in environmental matters. It directs at the national and regional level the processes of conservation of biological diversity, the management of the forest heritage, promotes land use planning and management, the processes of mitigation and adaptation to climate change, the instruments of prior and subsequent environmental control, and handles international environmental issues. It is the administrator of the South Protective zone of Bolívar state, the Ikabarú National Hydraulic Reserve and the Paragua Forest Reserve.	<ol style="list-style-type: none"> <li>1. Project promoter and coordinator.</li> <li>2. Member of the Technical Group of the Project.</li> <li>3. Member of the Project's Operational Group.</li> <li>4. Provides technical guidelines and basic information.</li> <li>5. Project Implementer.</li> <li>6. Project co-financier.</li> </ol>
<b>Ministry of Popular Power for Indigenous Peoples (MINPPPI):</b> is the competent body for the rights of the original indigenous peoples. It is responsible for the integral development of indigenous peoples and communities. It articulates with the communities the attention of socio-productive proposals. It is in charge of the demarcation and titling of the lands and habitats of the indigenous peoples and communities; and is representative in the communal Indigenous territory of Valles, Savannah and Tepuis (Bolívar State).	<ol style="list-style-type: none"> <li>1. Member of the Technical Group of the Project.</li> <li>2. Provides technical guidelines and basic information.</li> <li>3. Project Implementer.</li> <li>4. Project co-financier.</li> </ol>
<b>Ministry of People's Power for Water Services (MINAGUAS):</b> is the competent body in the area of water management. It is in charge of managing, at the national and regional level, the care, treatment, surveillance and protection of drinking water, sewage, watersheds, water resources and reservoirs.	<ol style="list-style-type: none"> <li>1. Member of the Technical Group of the Project.</li> <li>2. Provides technical guidelines and basic information.</li> <li>3. Project Implementer.</li> </ol>



	4. Project co-financier.
<b>Ministry of People's Power for Tourism (MINTUR):</b> is the competent body in matters of tourism. It is responsible for the promotion and sustainable development of the national territory as a tourist destination and is in charge of promoting projects with the participation of the indigenous communities for the development of sustainable alternatives for tourism development, especially in the Canaima National Park and Natural Monuments.	1. Future member of the Technical Group of the Project. 2. Provides technical guidelines and basic information.
<b>People's Ministry of Ecological Mining Development (MIDME):</b> is the competent body for mining activities and the National Mining and Ecological System. It is in charge of assigning potential spaces to develop mining activity within the framework of land use planning and other technical and legal instruments; and promotes the application of new technologies that reduce the impact of mining activity and contribute to the recovery of historically affected areas.	1. Future member of the Technical Group of the Project. 2. Provides technical guidelines and basic information.
<b>Ministry of the People's Power for Defense (MPPD):</b> is the competent body in matters of security and defense of the Nation. It is in charge of administering the Border Security Zone of the State of Bolívar.	1. Provides technical guidelines. 2. Provides support in terms of security.
<b>Ministry of the People's Power for Electric Energy (MPPEE):</b> is the competent body for the Electric Energy System and Service. It is responsible for identifying new sources and rational use of electric energy; and for generating strategic alliances for the maintenance and management of the national electric system.	1. Member of the Technical Group of the Project. 2. Provides technical guidelines and basic information. 3. Project co-financier.
<b>Ministry of People's Power for Communes and Social Movements (MPPCMS):</b> is the competent body in matters of the organization and consolidation of the Popular Power; the registration of the Communal Councils, Communes, Social Property Companies and other instances and organizations of the Popular Power. It is also in charge of directing the communal training system, the micro-financial system, the communal economic system, the collective property regimes based on the popular initiative and the recognition of social movements.	1. Future member of the Technical Group of the Project. 2. Provides technical guidelines and basic information.
<b>Ministry of the People's Power for Productive Agriculture and Lands (MPPAPT):</b> is the competent body for agricultural, plant, livestock, aquaculture, fishing and forestry matters (these competences are now in MinPesca (Ministry of Fisheries) and MINEC); and rural infrastructure. (these competences are now in MinPesca and MINEC); and rural infrastructure. It is in charge of directing research and technological development and agricultural innovation. It administers and distributes land with agricultural vocation, the administration of vacant land destined for agricultural exploitation and the rural cadastre.	1. Future member of the Technical Group of the Project. 2. Provides technical guidelines and basic information.
<b>Ministerio del Poder Popular de Planificación (Ministry of People's Power for Planning) (MP-PP):</b> is the competent body for sectoral and spatial planning of the country at various scales. It is responsible for directing and following up on international technical cooperation and mu-	1. Follow-up of territorial planning processes as President of the National Commission for Territorial Planning (CNOT). - - - - -

<p>ltilateral financing; and following up on plans at all scales.</p>	<p>2. Follow-up of multilateral financing.</p> <p>3. Provides technical guidelines.</p>
<p><b>National Parks Institute (INPARQUES):</b> is an entity attached to the Ministry of People's Power for Eco-socialism, responsible for the administration and management of National Parks (P N), Natural Monuments (MN) and Open Field Recreational Parks (PRCA), integrated in the National Parks System (SNP). It is in charge of directing at the national and regional level the processes of biodiversity conservation in the SNP, as well as promoting its land use and management processes. It is in charge of the operations of the Park Rangers and Forest Firefighters, as well as being the entity with strong links to research institutions; it is also in charge of evaluating new proposals for National Parks and Natural Monuments.</p>	<p>1. Member of the Project's Technical Group.</p> <p>2. Member of the Project's Operational Group.</p> <p>3. Provides technical guidelines and basic information.</p> <p>4. Project co-financier.</p>
<p><b>Secretary of the National Security Council (SECODENA):</b> is the consulting body for planning and advising the national, state and municipal public power in matters related to the security and integral defense of the Nation. It keeps the registry and provides technical guidelines on the declaration and management of Security Zones.</p>	<p>1. Provides technical guidelines.</p>
<p><b>National Electric Corporation (CORPOELEC):</b> is a state-owned company attached to the Ministry of People's Power for Electric Energy, which is responsible for the provision of electric service. Its policy for its areas of interest is to promote activities that improve the environment, as well as to avoid, minimize and control activities capable of degrading it, based on the environmental principles of prevention, sustainability, legality, responsibility, education and continuous improvement. It has a Regional Environmental Division in the Project area, which in turn has Environmental Project Management, Environmental Monitoring and Environmental Watershed Management Departments.</p>	<p>1. Member of the Technical Group of the Project.</p> <p>2. Provides technical guidelines and basic information.</p> <p>3. Project Implementer.</p> <p>4. Project co-financier.</p>
<p><b>Venezuelan Institute of Scientific Research (IVIC):</b> is an Autonomous Institute attached to the Ministry of People's Power for Science and Technology, competent in the generation of knowledge through basic and applied scientific research. It is responsible for promoting technological development projects to meet the demands of the country in areas such as environment from species to ecosystems; models of processes and functions; studies of structure, toxicology and conservation status. It also has an Ecology and Anthropology Center, specific laboratories: Biodiversity Unit, Ecosystem Studies and Climate Change.</p>	<p>1. Member of the Technical Group of the Project.</p> <p>2. Provides technical guidelines and basic information.</p>
<p><b>National Institute of Meteorology and Hydrology (INAMEH):</b> is an entity attached to the Ministry of People's Power for Internal Relations, Justice and Peace, responsible for the regulation and coordination of the national hydrometeorological activity. It is responsible for collecting and compiling information on weather, climate and hydrology; water bodies, volumes, bodies, runoff in time and space. It is responsible for addressing issues related to the processes of mitigation and adaptation to climate change and meteorological risks (drought; water defi</p>	<p>1. Member of the Technical Group of the Project.</p> <p>2. Provides technical guidelines and basic information.</p>

cit, forest fires, deforestation, soil loss; studies of bathymetry in reservoirs; the entire hydrological cycle).	
<b>National Institute of Geology and Mining (INGEOMIN):</b> is a specialized entity attached to the People's Ministry of Mining and Ecological Development, which is responsible for conducting research, mainly of an interdisciplinary nature, in the areas of geology, mineral resources, geophysics, geochemistry, geo-technics and other related areas. It has geological and mining laboratories.	<ol style="list-style-type: none"> <li>1. Potential Invited Member of the Technical Group of the Project.</li> <li>2. Provides technical guidelines and basic information.</li> </ol>
<b>Government of the State of Bolívar:</b> is in charge of the administration and government of the state. It is responsible for the organization of its municipalities and other local entities; the regime and use of non-metallic minerals; organization of state public services; conservation and use of state roads and national highways.	<ol style="list-style-type: none"> <li>1. Provides technical guidelines and basic information.</li> </ol>
<b>Venezuelan Corporation of the state of Guayana (CVG):</b> is a development corporation attached to the Ministry of People's Power for Industries and National Production. Within its environmental policy, it seeks to contribute to the search for options for the sustainable use of natural resources, the prevention and control of environmental pollution and the recovery of areas degraded by human activities in the Guayana region. CVG TECMIN C.A., a company supervised by CVG, is a leader in the elaboration of studies and projects in the areas of engineering, geo-exploratory, mining, environmental, territorial, geostrategic, cartography and geographic information systems. They manage the inventory of natural resources in the region.	<ol style="list-style-type: none"> <li>1. Potential Invited Member of the Technical Group of the Project.</li> <li>2. Provides technical guidelines and basic information.</li> <li>3. Potential co-financier of the Project.</li> </ol>
<b>HIDROBOLIVAR:</b> is a company attached to the Ministry of People's Power for Water Services and is responsible for the provision of potable water and environmental sanitation services in the state of Bolívar.	Provides technical guidelines and basic information.
<b>Guayana Experimental University (UNEG):</b> is a Higher Education center of regional character. The research strength is developed through 10 centers including topics such as: environment, anthropology, management, sustainable development, among others.	<ol style="list-style-type: none"> <li>1. Potential Invited Member of the Technical Group of the Project.</li> <li>2. Provides technical guidelines and basic information.</li> </ol>
<b>Indigenous Federation of the State of Bolívar (FIEB):</b> is a non-profit civil association, formed by the indigenous peoples and communities: "Pemon, Ye'kwana, Kariña, Akawaio, Arahuaico, Mapoyo, Piaroa, Eñepá, Sanema, Warao, Jiwi" and other indigenous peoples and communities. It is a promoter of the sectorization of the Pemón territory into eight (8) sectors and the defense of indigenous territories in general.	<ol style="list-style-type: none"> <li>1. Provides technical guidelines and basic information.</li> </ol>
<b>Mayors and Parishes of the State of Bolívar:</b> The municipalities are the primary political unit of the national organization of the Republic, have legal personality and exercise their competences autonomously. The municipalities are responsible for territorial and urban planning; hi	<ol style="list-style-type: none"> <li>1. Provides technical guidelines and basic information.</li> </ol>

historical heritage; housing of social interest; local tourism; parks and gardens; environmental protection and cooperation with environmental sanitation. The parishes are demarcations created with the purpose of deconcentrating municipal management, promoting citizen participation and a better provision of municipal public services.	
<b>Council of Captains (Caciques) of the Pemón Indigenous People:</b> They are in charge of leading the communities and represent the spokespersons of the Indigenous Community Captains (male or female). The Council elects the General Captain or Captain General who represents the group of Captains in internal affairs and their defense before the Venezuelan State, being spokespersons and promoters of initiatives, in attention to the social, economic, cultural and political common good.	1. Provides social guidelines. 2. Potential Guest Member of the Project's Technical Group.
<b>Tour operators:</b> are private companies in charge of tourist activities in different sites of the PNC, they are supported by local and indigenous communities.	1. Provides basic information on tourism activities.
<b>National Indigenous Experimental University of Tauca (UNEIT):</b> Aimed at providing higher academic attention to members of the indigenous communities of Venezuela, its main campus is located in Tauca, Bolivar state, and it has another campus in Amazonas state. Its students belong to various indigenous communities in the country.	1. Potential Invited Member of the Technical Group of the Project. 2. Provides technical guidelines and basic information.

133. **Indigenous communities:** The main stakeholders of the project to be financed by the GEF are the indigenous communities, who also become strategic partners for the implementation of the project. The upper and middle basins of the Caroní River and the lower and upper basins of the La Paragua River are home to indigenous communities recognized by the Venezuelan government for their existence, their social, political and economic organization, their cultures, customs, languages and religions, as well as their habitat and indigenous rights.

134. In the state of Bolivar, and specifically in the project's area of influence, it is necessary to involve the indigenous communities of the Gran Sabana and Angostura municipalities. It is emphasized that a more complete and integral selection of the communities could be carried out through the stakeholder engagement processes, in which the participation of the "captains" of the communities and indigenous peoples is expected, as well as the FIEB.

135. Some of the Pemón indigenous communities, recognized by the 2005 Organic Law on Indigenous Peoples and Communities (LOPCI), are located inside Canaima National Park, which is why they have reported restrictions on the cultivation of conucos and other activities, while the National Parks Institute (INPARQUES) reports that forest fires in the area are caused by uncontrolled burning of savannah by the Pemón and illegal mining in some areas of the National Park. In this regard, the project will carry out a free, prior, and informed consent process following GEF and FAO guidelines to gather the opinions of the local communities and incorporate them into the project design. This will allow for coordinated work on conservation, diversification and strengthening of sustainable livelihoods for indigenous and local communities, so that they can improve their livelihoods without affecting nature. The project will favor organizations led by and for women and youth.

136. **OSC/ONG:** It is considered important to include those organizations that maintain work and/or support community organizations and indigenous communities in the pursuit of local sustainable development in the identified landscape. This will include those NGOs that have the interest and capacity to provide key support services to community livelihood improvement development, including technical and legal assistance and capacity building. These NGOs will be identified during the project formulation and implementation process to begin with the approval of this proposal.

137. Regarding stakeholders consulted during project identification, Table 11 presents a summary of the consultations made.

Table 11. The stakeholders consulted during project identification

Name of interested party	Type of stakeholder	Stakeholder profile	Consultation methodology
Ministry of the People's Power for Eco socialism (MINEC)	Co-financing partner	<i>National Government Institution body</i>	Interactive workshop to share experiences/workshops (on line and/or face-to-face) / Documentation of experiences and background.
Ministry of Popular Power for Indigenous Peoples (MINPPPI):	Co-financing partner	<i>National Government Institution body</i>	Interactive workshop to share experiences/ Documentation of experiences and background
Ministry of People's Power for Water Services (MINAGUAS):	Co-financing partner	<i>National Government Institution body</i>	Interactive workshop to share experiences/workshops
Ministry of the People's Power for Productive Agriculture and Lands (MPPAPT)	Stakeholder	<i>National Government Institution body</i>	Documentation of experiences and background.
People's Ministry of Ecological Mining Development (MIDME)	Co-financing partner	<i>Government Institution body</i>	Documentation of experiences and background.
Ministry of the People's Power for Women and Gender Equality (MinMujer)	Stakeholder	<i>National Government Institution body</i>	<i>Meeting</i>
National Parks Institute (INPARQUES)	Co-financing partner	<i>National Government Institution body</i>	Interactive workshop to share experiences/workshops (on line and/or face-to-face) Documentation of experiences and background
National Electric Corporation (CORPO ELEC):	Co-financing partner	<i>National Government Institution body</i>	Interactive workshop to share experiences. Documentation of experiences and background
Venezuelan Corporation of the state of Guayana (CVG)	Co-financing partner	<i>National Government Institution body</i>	Documentation of experiences and background

Venezuelan Institute of Scientific Research (IVIC)	Co-financing partner	<i>Other</i>	Interactive workshop to share experiences. Documentation of experiences and background
INAMEH	Stakeholder	<i>National Government Institution body</i>	Interactive workshop to share experiences. Documentation of experiences and background
Sustainable Forest Management and Forest Conservation in an Ecosocial Perspective' project, which has been implemented by the Venezuelan State (MINEC), the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF)	Stakeholder	<i>Other</i>	Interactive workshop to share experiences. Documentation of experiences and background
Tour operators	Stakeholder	<i>Private</i>	<i>Meeting</i>
ONG Anacoana	Stakeholder	<i>ONG</i>	<i>Meeting</i>
ONG Tierra Viva	Stakeholder	<i>ONG</i>	<i>Meeting</i>
ONG Foundation La Salle	Stakeholder	<i>ONG</i>	<i>Meeting</i>
Council of Captains (Caciques) of the Pemón Indigenous People:	Stakeholder	<i>Civil Organization</i>	<i>Meeting</i>

### 3. Gender Equality and Women's Empowerment

**Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).**

138. A gender analysis will be undertaken during project formulation and an Gender Action Plan elaborated to ensure adequate integration of gender equality in the project framework, targets and indicators, considering implementation, evaluation and follow-up in all field outputs, taking into consideration the gender policy of FAO and GEF.

139. The project will also ensure that there is a good representation of women during project implementation and will consider the impact of project activities on them. Based on the above, an action plan with activities and indicators will be developed and integrated into the project. Elements will be presented that will make it possible to incorporate the principles of equality in a cross-cutting manner and the way in which the project contributes to their achievement. In the context of the project, women are seen as active agents of change and, therefore, one of the project's strategies is to promote and achieve the full, true, active and quality participation of indigenous and local women, guaranteeing them spaces and considering their contributions.

140. Regarding GEF gender equality result areas, the project will work in the improvement of the women participation in decision making and in generating socio-economic benefits for women. While a gender analysis considering cultural variables is required in order to generate and gender action plan, it is expected that the project will contribute by assuming the commitment to increase and strengthen the spaces for equal participation of women in the formulation and implementation of policies in all areas of protected areas, as well as in social and productive activities. The presence of women in equal numbers of men will facilitate their participation in the management and co-management of natural resources, especially those aimed at the common welfare of the community, where women have a share of responsibility (food production) and considering that land ownership is communal (in the case of indigenous populations). This is in respect of the cultural context of the area or of the indigenous communities. The project will also ensure participation of a proportion of women, to be determined during project formulation, in training activities for national institutions and at the local level, in ecotourism, use of wood and non-wood forest products, co-management of ABRAEs, and in spaces with several stakeholder such as the definition of the Management Plans and Regulations of Use (PORU).

141. During project preparation, consultations will be held with community groups and NGOs to ensure that women are comfortable with the participatory processes. Therefore, consultations will be conducted in mixed groups or separately, depending on their preference. This will ensure gender responsiveness to the project through mainstreaming and equity measures.

142. The potential benefits and impacts on women will be considered throughout the design and implementation process. Thus, the project will continue to ensure the equitable participation of women and other vulnerable groups in all discussions and activities, ensuring that their voices can be heard. Thus, indicators to measure the achievement of project objectives in relation to gender equality will include sex-disaggregated data for men and women involved in project activities.

143. The strengthening, management and planning plans will include a chapter on generational and gender equity, emphasizing the importance of promoting better living conditions for indigenous and local women and strengthening their capacities for autonomous development and participation in decision-making forums. Its activities will include the promotion of gender equity and women's autonomy, the promotion of programs and policies aimed at

strengthening collective territoriality hand in hand with women, support for environmental quality programs driven by women in collective territories, and the promotion of an environmental management and community participation policy with a gender perspective. The various activities aimed at both men and women will be carried out at times compatible with their family life and routine activities.

144. During the PPG, the Gender Action Plan aimed at promoting gender equality will be developed, which will be monitored and evaluated through the M&E reports of the project. As the beneficiaries at the local level are mostly indigenous people, the analysis will be done by a specialist with anthropology background besides gender equality preparation, in order to capture cultural variables.

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?** Yes

**closing gender gaps in access to and control over natural resources;** No

**improving women's participation and decision-making; and/or** Yes

**generating socio-economic benefits or services for women.** Yes

**Will the project's results framework or logical framework include gender-sensitive indicators?**

Yes



#### 4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

145. Private sector entities and actors will be considered as potential partners in multi-stakeholder partnerships for the intervention area, and therefore these potential partnerships will be actively sought to be strengthened. In this sense, initially the tour operators that work in the project areas are considered, since these actors benefit from the terrestrial ecosystems to which the project is directed, and incorporate the indigenous populations in their own tourism activities such as: tours, preparation of meals, support in lodgings among others.

146. From the pharmaceutical and cosmetic point of view, there are small private enterprises that take advantage of species such as sarrapia (*Dipteryx punctata*) used for gastronomy and healing properties, acai (*Euterpe oleracea*) is traditionally used to treat digestive dysfunctions or skin diseases, in cosmetics, its oil is used in beauty products for being a powerful antioxidant of nature. There are other species that can be incorporated to work with sustainable management. In food products is the palm heart used in gastronomy and is processed by private industries, it is obtained from the *Mauritia flexosa* palm.

147. In the area of reforestation and recovery of areas, private mining companies duly permitted, have commitments in social responsibility, making contributions to institutions or associations that are not for profit and contributing among others to the conservation, defense and improvement of the environment. Therefore, the project will establish alliances for the implementation of actions aimed at the conservation of biodiversity.

## 5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

148. The risks to the proposed project, potential consequences and proposed mitigation measures are detailed in Table 10 below.

Table 12. Project risks, likelihood and mitigation measures

Risks	Probability	Mitigation measures
Reduced government commitment to the project	Low	The project will include measures to keep the government informed and increase its interest in the importance of conserving the ecosystems, and thus the biodiversity, of the Caroni River basin for national development.
Insufficient inter-institutional coordination at the national, regional and local levels, and a deficit in cooperation mechanisms with the private sector and local institutions, resulting in delays in the implementation of project activities.	Medium	Interinstitutional coordination and cooperation mechanisms between public institutions will be developed and strengthened to address the problems of the Guayana region with a comprehensive and multipurpose approach. Capacity building of the institutional actors involved in these mechanisms will contribute to improve the dissemination of information among the different actors and levels (central, state, municipal) and improve coordination.
Lack of institutional support: government agencies may not effectively support project implementation during the execution period.	Low	The project has been requested by the National Government through the Ministry of People's Power for Eco-socialism (MINEC) in support of its activities at regional and national level in the commitment to the 2030 Agenda with a comprehensive look towards economic, social, environmental, cultural and political development, with the responsibility to guide public policies to meet the SDGs and advance in each of them towards the year 2030, in addition to the priorities and recommendations included in the National Strategy for the Conservation of Biological Biodiversity. Agreements and commitments will be promoted
Lack of interest and commitment on the part of local communities to participate in the project translates into low levels of participation that jeopardize the implementation, achievement and sustainability of the project's results and objectives.	Medium-low	The methodological and strategic approach of the project will be participatory. During the design phase, participatory processes of consultation and validation of the design will be carried out to foster interest, involvement and ownership. Activities will be carried out in areas that have the support and active participation of the local community. From the outset, the project will carry out a process of free, prior and informed consent following GEF and FAO guidelines to gather the opinions of the indigenous communities and incorporate them into the project design.

Lack of project sustainability: there is a risk that at project closure there will be a lack of adequate funding and capacity to implement the activities undertaken.	Low	The project will strengthen regional, national and private institutional capacities to ensure that the technologies and knowledge necessary for the continuation of project activities can be transferred to the relevant institutions before project closure. In addition, a financial plan will be developed for the system of the 5 protected areas of the Caroni River Basin.
High turnover and changes in government administration considering the project implementation period may cause delays.	Medium-low	In case of significant changes that may affect implementation, the Steering Committee and the Project Technical Coordinator will promote high-level and/or technical meetings and prepare materials to inform and raise awareness on the importance of the project for the sustainable development of the region and the country, as well as related public policies and programs.
Increased hazards in the project areas due to the growth of the mining sector	Medium	The institutional alliances that will be developed through the project will promote awareness in other ministries and institutions of the threats posed by mining to the conservation of the Caroní river basin.
Project activities have an impact on indigenous peoples	Low	During the first year of project implementation, an FPIC process will be implemented and socialized. The project's grievance mechanism that can be activated by project beneficiaries and non-beneficiaries will be implemented and socialized.
Extreme weather in the intervention area can increase the level of threats such as fires and floods. (Annex G of the Agency Document)	Medium	The project contemplates a series of strategies aimed at directly and indirectly modulating climate risks: i) address problems of protected terrestrial areas created or under improved management for conservation and sustainable use, ii) the area of restored land. Both will have a powerful modulating effect on the impacts associated with climate variability. iii) support to indigenous and local communities in the diversification of livelihoods for sustainability in landscape management and productive socio-management
COVID19	Low	All necessary sanitary and biosecurity measures will be taken to avoid contagion among project personnel and indigenous and local communities.
The project is not implemented according to plan.	Very Low	A mid-term evaluation will be carried out to identify possible corrective actions to improve project implementation.

149. In order to mitigate the risks of COVID19 and future pandemics, the project will support green recovery and resilience for the GEF focal areas, through wildlife conservation and sustainable landscape management, through: i) strengthening of institutional capacities for sustainable landscape management: ii) integral landscape management that involves the elaboration of management plans and regulations for the use of protected areas, including the restoration of degraded areas with the use of best practices and methods of ecosystem restoration such as: the use of multiple native species, natural regeneration, analog

forestry, among others, iii) support to local communities with sustainable economic activities that improve livelihoods, with the provision of alternatives in ecotourism, value added of wood and non-wood forest products, ethnobotany and family farming. This through joint decisions between the project and the indigenous and local communities, using participatory analysis methods.

## 6. Coordination

**Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.**

150. The People's Ministry of Ecosocialism (MINEC) will be responsible for the execution of the project, in close collaboration with the Food and Agriculture Organization of the United Nations (FAO), as the implementing agency of the GEF, under the Direct Execution Project (DEP) modality, which will allow for Letters of Agreement to be signed between FAO and national institutions, and to disburse resources under the guidance of MINEC, following Work Plans approved by the project Steering Committee. The project will be technically executed by the MINEC, responsible for the achievement of project outcomes and for the adequate use of all resources. At the beginning of the project, a Project Steering Committee (PSC) will be established to advise on project implementation. This PSC will be made up of representatives from MINEC and INPARQUES, one representative from each of the stakeholders: CORPOELEC, MINPI, MIDME and CVG, and two beneficiaries, designated via the general assembly, and FAO, plus other institutions that may be invited to the meetings. Its main functions will be to: analyze and approve regular work plans, terms of reference and consultant selection; provide strategic guidance and monitor project implementation; review progress and evaluation reports; discuss strategic issues or problems that arise during project implementation, as well as provide institutional support for the necessary inter-institutional coordination and input to project activities. The PDC will maintain a continuous flow of information among its members through electronic means, as well as additional or extraordinary meetings, remotely or by other means if necessary.

151. FAO, MINEC and the other participating entities will collaborate with the executing agencies of other programs and projects to identify opportunities and facilitate mechanisms to achieve synergies with other relevant GEF-supported projects, as well as with projects supported by other donors. This collaboration will be carried out through: (i) informal communications between GEF agencies and implementing partners of other programs and projects; (ii) exchanges of information and dissemination materials between projects. In order to ensure that coordination and collaboration spaces between the different initiatives materialize, specific coordination functions have been included in the scope of work of the Project Management Unit (PMU), which have been included in the terms of reference of the Project Technical Coordination, the results of which must be explicitly reflected in the project progress reports.

152. The PMU will consist of a Project Team (PT) funded by the GEF. The main function of the PMU is to ensure project implementation through the implementation of the annual work plans. The PMU will be under the supervision of the PDC. In this context, a Technical Project Coordinator will be appointed, who will be under the supervision and guidance of the PDC. Municipal teams will also be available to represent the project locally and coordinate with existing public and private entities through strategic alliances and contracts with associations, institutions and service providers directly linked to project users.

## 7. Consistency with National Priorities

### Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions?

Yes

**If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc**

153. The Project is framed within the framework of different national and international strategies, of which the country is a signatory, among which the following are identified:

154. Venezuela is a party to the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The National Environmental Authority and operational and technical focal point for these conventions is exercised through the Ministry of People's Power for Eco-socialism (MINEC), which coordinates the implementation of the provisions of the aforementioned Conventions at the national level.

155. Currently, the National Strategy for the Conservation of Biological Diversity 2010-2020 and its National Action Plan (ENCDB-PAN), are included in Program 44 of the Law of the Plan of the Homeland: Second Socialist Plan for the Economic and Social Development of the Nation 2013 - 2019 (2013), responding to its fifth historical objective: "To preserve life on the Planet" Ministry of People's Power for the Environment, 2012. The ENCDB-PAN is aimed at promoting a new eco-socialist ethic through the conservation and sustainable use of biological diversity that considers the simultaneous participation of broad sectors of society.

156. The project will also launch actions to reduce GHG emissions as set out in the framework of the Second National Communication on Climate Change to the UNFCCC (2017). The project will contribute as follows. (a) the reduction of GHG emissions; and (b) reducing forest fires and effectively managing biological corridors and forest ecosystems to increase their resilience to climate variability and climate change, and to ensure the maintenance of ecological processes and natural goods and services. As it will also support the achievement of the strategic objectives of the UNCCD (2018-2030), through the 8 goals of the NDT Program and the goals established by the country are referenced: i) by 2030 the forest cover has increased by 262,361.00 ha; ii). By 2030, the incidence of forest fires throughout the territory has been reduced by 50%; (iii) by 2030, 50 per cent of scrub and grassland cover will have regenerated naturally as forests; By 2020 improve coordination between the different institutions, civil society, unions and promote participatory mechanisms

157. The Third Socialist Plan for the Economic and Social Development of the Nation 2019 - 2025 developed in 2019, has several goals on development, one of them the Historic Major Goal V. Contribute to the Preservation of Life on the Planet and the Salvation of the Human Species; In addition, there are Goal 6: Ensure availability and sustainable management of water and sanitation for all; Goal 15, in particular 15. 1, which seeks to ensure the conservation, establishment and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, consistent with obligations under international agreements.

158. The project is consistent with and will contribute to the achievement of the Aichi Targets, particularly in relation to Strategic Objective B: Reduce direct pressures on biodiversity and promote sustainable use; Target 1: Increased societal awareness of the value of biodiversity, and the ecosystem services it provides, has been achieved through environmental education for sustainable development, awareness raising and citizen participation, through the identification of information gaps and training needs on biodiversity and enabling pathways for their resolution; Target 5: Areas used for agriculture and forestry are sustainably managed, based on the effective implementation of legal and territorial management tools; Target 11: 20% of terrestrial areas of

importance for biodiversity and ecosystem services are conserved, by ecologically representative, effectively and equitably managed protected areas or other effective, area-based, well-connected and integrated forms of conservation in broad landscapes; Target 12: The conservation status of species identified with threat category is improved or maintained; Target 13: Genetic diversity of native species and those of socioeconomic value is maintained and safeguarded; Target 19: Legal instruments and procedures for the protection of traditional knowledge, innovations and practices of local communities relevant to the conservation and sustainable use of biological diversity are established.

## 8. Knowledge Management

**Outline the knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.**

159. During project identification, lessons learned from other projects mentioned in the baseline have been considered. Projects implemented by CORPOELEC (paragraph 53), CVG and universities (paragraph 58) and successful experiences working with indigenous communities, promoting their involvement in the management of natural resources (paragraph 62) have been considered. The project has also taken information from other projects in the country<sup>[1]</sup> and publications<sup>[2]</sup>.

160. Knowledge management activities will be part of Component 4 and will include the systematization of the knowledge generated and the exchange of good practices and lessons learned, including women's experiences. Knowledge products and/or publications will also be developed. Project results will be shared within and outside the project intervention area through a number of existing networks and information exchange forums. The project may participate in GEF-sponsored networks that are organized for senior staff working on similar projects and in scientific and/or other networks that may be beneficial to project implementation.

161. It is important to add that the indigenous communities present in the project intervention area are intimately related to natural resources, which is why they have ancestral knowledge that the members of the group have of natural resources. Also the functions and dynamics of ecosystems, as well as management practices, beliefs, traditions and organizations associated with this and developed by their society over thousands of years. This knowledge is transmitted from generation to generation orally, by observation and imitation, and facilitates the adaptive strategy of indigenous peoples in the face of change. Even so, this knowledge is losing importance in these indigenous peoples, especially those that favor natural resources, since little by little they are abandoning the subsistence economy and are adapting new forms of economy, as well as formal education and modern health systems, therefore this knowledge will be rescued and written in Spanish as well as in the languages of the indigenous peoples present.

162. The project will develop a strategic communication plan, which will allow for actors involved to be informed on the project progress and the positive results obtained from its implementation. Therefore, the project unit will give importance to communication, determined by an image that seeks the restoration and conservation of biodiversity in the Caroní River basin with project support.

163. The strategic communication plan will be based on the following steps: (i). Based on the barriers identified and outcomes to achieve, all the actors of relevance that must be informed will be identified. In the same way, the potential messengers, means and ways of communication required will be identified. (ii). Design the communications strategy: it will include communication objectives, segmentation of the actors, programmatic approaches, communication channel recommendations, work plan, monitoring and evaluation plan. (iii) Creation and validation: The communication products of the plan will be developed, potentially including media and digital and printed materials, participatory processes (workshops, meetings, fairs) and trainings, among others. In this step, the creative and artistic visions necessary to move the actors and inspire them to change the behavior towards the conservation of biodiversity and replicate the successful actions that the project will promote are presented. (iv) Implementation and monitoring (v). Evaluate: will allow to determine if the communication plan is achieving its objectives and will identify any unintended consequences. In addition, it seeks to know whether or not it was effective and if it had the expected effects on the knowledge, attitudes or behaviors of its target audiences (staff of public and private institutions, local and indigenous populations, the general public).



164. The strategic communication plan will have special emphasis on promoting knowledge meetings as spaces for the exchange of knowledge and experiences, between indigenous and local communities. The exchange of visions will be based on a reflection on the territory management, the relationship between communities and environment, and existing territorial interests, from an intercultural perspective. These meetings will enhance the role of the people in the integral management of the basin. Particular topics will be proposed and discussed, and by the end of the project, reflections will be shared and consolidated to encourage intercultural visions of the protected areas and the territory, the strengthening of the social fabric and the exaltation of traditional knowledge and the conservation of nature.

165. The project will also include knowledge exchange workshops, conversations, webinars and publications, among other activities, between different environmental or ecological organizations: REDPARQUES, UNDP, WWF, Greenpeace, World Nature Organization (WNO) to name a few. These activities will allow to know visions of the institutions and experts in the field, providing valuable information for the management of territories and indigenous and community areas of conservation.

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[1] Fortalecimiento del Sistema de Áreas Protegidas Marino Costeras de Venezuela, Proyecto 00075653. Diciembre 2018. Caracas- Venezuela

[2] Freddy Matos. El Parque Nacional Sierra Nevada. ¿Medio siglo de consolidación?- Una visión multidimensional de sus valores y perspectivas. Mérida 2007.

## 9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification\*

PIF

CEO Endorsement/Approval MTR

TE

Medium/Moderate

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

Two FAO environmental and social safeguards were triggered during PIF preparation. Please refer to the attached FAO ESS supporting document for further details.

**ESS 2 : Protected Areas and buffer**

A full environmental and social impact assessment will be conducted during PPG phase since the project will be implemented within legally designated protected areas (or buffer zones).

Regarding the access to genetic resources for their utilization and/or access to traditional knowledge associated with genetic resources that is held by indigenous, local communities and/or farmers : identified issues in the FAO project risk certification shall be included in the project document and reported in progress reports.

**ESS 9 : Indigenous peoples**

A Free, Prior and Informed Consent process shall be conducted during the PPG phase. Do refer to the FAO Project Risk Certification for further details.

**Supporting Documents**

Upload available ESS supporting documents.

**Title**

**Submitted**

ESM Risk Classification GEF Caroni

### Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Miguel Alberto Serrano Orta	Director of Integration and International Affairs	Ministry of Popular Power for Ecosocialism	3/25/2022

**ANNEX A: Project Map and Geographic Coordinates**

Please provide geo-referenced information and map where the project intervention takes place

**PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES**

