



## SECOND MONITORING DOCUMENT OF THE PROJECT



VERSION 1.2

# Content

<b>1. ABSTRACT</b>	<b>5</b>
<b>2. INTRODUCTION</b>	<b>5</b>
<b>3. SECOND VERIFICATION</b>	<b>6</b>
<b>4. BASELINE UPDATE</b>	<b>7</b>
<b>4.1. LEAKAGE AREA BASELINE UPDATE</b>	<b>7</b>
<b>4.2. EMISSIONS REDUCTION FROM AVOIDED DEGRADATION</b>	<b>8</b>
<b>4.3. ADJUSTED BASELINE</b>	<b>9</b>
<b>5. MONITORING PLAN UPDATE</b>	<b>11</b>
<b>5.1. PROJECT BOUNDARIES</b>	<b>11</b>
<b>5.2 REDD+ SAFEGUARDS</b>	<b>11</b>
5.2.1. Correspondence with National Legislation, International Agreements and National Policies.	14
5.2.2. Transparency and Access to Information	17
5.2.3. Accountability:	17
5.2.4. Recognition of Forest Governance Structures	17
5.2.5. Capacity Building:	17
5.2.6. Free, Prior and Informed Consent (FPIC):	19
5.2.7. Recognition of Traditional Knowledge:	19
5.2.8. Profit Sharing	19
5.2.9. Land Rights	20
5.2.10. Participation:	20
5.2.11. Forest and Biodiversity Conservation	21
5.2.12. Provision of Environmental or Ecosystem Goods and Services:	21
5.2.13. Environmental and Land Management	22
5.2.14. Sector Planning	24
5.2.15. Forestry Control and Surveillance	24
<b>5.3. PERMANENCE MONITORING PLAN</b>	<b>24</b>
5.3.1. Biophysical risks	25
5.3.2. Socioeconomic Risks.	26
<b>5.4. SUSTAINABLE DEVELOPMENT GOALS MONITORING PLAN.</b>	<b>27</b>
<b>5.5. PROJECT EMISSIONS MONITORING</b>	<b>29</b>
5.5.1. Data Activity	29
<b>6.1. PROJECT BOUNDARY MONITORING</b>	<b>31</b>
6.1.1 Reference Region, Project Areas, Leakage Belt	31
6.1.2. Eligible areas	32
<b>6.2. MONITORING THE IMPLEMENTATION OF REDD+ ACTIVITIES</b>	<b>33</b>

6.2.1. Conservation and Mitigation Activities	34
<b>6.3. MONITORING OF REDD+ SAFEGUARDS 2015 to 2020</b>	<b>36</b>
<b>6.4. MONITORING THE PERMANENCE OF THE REDD+ PROJECT</b>	<b>47</b>
6.4.1. Biophysical Risks	48
6.4.2. Socioeconomic Risks.	50
<b>6.5. MONITORING THE SUSTAINABLE DEVELOPMENT GOALS</b>	<b>51</b>
<b>6.6. PROJECT EMISSIONS MONITORING</b>	<b>52</b>
<b>7.ADDITIONAL</b>	<b>52</b>
<b>7.1 STEP 0. REDD+ PROJECT START DATE</b>	<b>52</b>
<b>7.2 STEP 1. IDENTIFICATION OF LAND USE ALTERNATIVES</b>	<b>53</b>
7.2.1. Sub-step 1a. Identification of likely land use alternatives in CO2BIO project areas	53
7.2.2. Sub-step 1b. Consistency of land use alternatives with applicable laws and regulations	54
<b>7.3. STEP 2. BARRIER ANALYSIS</b>	<b>56</b>
<b>7.4. STEP 3. IMPACT OF PROJECT REGISTRATION</b>	<b>58</b>
<b>8. CONSERVATIVE APPROACH AND UNCERTAINTY MANAGEMENT</b>	<b>59</b>
<b>9. OWNERSHIP AND CARBON RIGHTS.</b>	<b>59</b>
<b>10. CONSULTATION OF INTERESTED PARTIES</b>	<b>59</b>
<b>11. LIST OF ANNEXES</b>	<b>60</b>
<b>12. REFERENCES</b>	<b>60</b>

## Table content

<b>Table 1. Adjustment for national conditions</b>	<b>9</b>
<b>Table 2. Baseline update</b>	<b>10</b>
<b>Table 3: Safeguards monitoring plan</b>	<b>12</b>
<b>Table 4. Legislation and agreements in connection with the CO2Bio project</b>	<b>14</b>
<b>Table 5. Lines of action in common with the National Development Plan 2018-2022.</b>	<b>15</b>
<b>Table 6: Lines of action in common with the National Development Plan 2018-2022:</b>	<b>16</b>
<b>Table 7. Capacity building</b>	<b>18</b>
<b>Table 8. Lines of action in common with the Regional Environmental Plan 2013-2025</b>	<b>22</b>
<b>Table 9. Lines of action in common with PRICCO (in Spanish)</b>	<b>23</b>
<b>Table 10. Permanence monitoring.</b>	<b>25</b>

<b>Table 11. Sustainable Development Goals Monitoring Plan</b>	<b>28</b>
<b>Table 12. Eligible Areas</b>	<b>32</b>
<b>Table 13. Conservation and mitigation activities</b>	<b>34</b>
<b>Table 14. Activities carried out to comply with indicator 1.1</b>	<b>36</b>
<b>Table 15. Activities carried out to comply with indicator 2.1</b>	<b>37</b>
<b>Table 16. Activities carried out to comply with indicator 3.1</b>	<b>38</b>
<b>Table 17. Activities carried out to comply with indicator 4.1.</b>	<b>38</b>
<b>Table 18. Activities carried out for the fulfillment of indicator 5.1</b>	<b>39</b>
<b>Table 19. Activities carried out to comply with indicator 7.1.</b>	<b>40</b>
<b>Table 20. Activities carried out for the fulfillment of indicator 8.1</b>	<b>40</b>
<b>Table 21. Activities carried out to comply with indicator 9.1</b>	<b>41</b>
<b>Table 22. Activities carried out to comply with indicator 10.1</b>	<b>42</b>
<b>Table 23. Actions taken to comply with indicator 11.1.</b>	<b>42</b>
<b>Table 24. Activities carried out to comply with indicator 12.1.</b>	<b>43</b>
<b>Table 25. Activities carried out to comply with indicator 13.1.</b>	<b>44</b>
<b>Table 26. Activities carried out to comply with indicator 14.1.</b>	<b>45</b>
<b>Table 27. Activities carried out to comply with indicator 15.1</b>	<b>46</b>
<b>Table 28. Permanence of the CO2Bio Project</b>	<b>47</b>
<b>Table 29. Land Properties with fire presence.</b>	<b>49</b>
<b>Table 30. Sustainable Development Goals</b>	<b>51</b>
<b>Table 31. Emission Reductions 2020 Monitoring Period</b>	<b>52</b>

## **Image Content**

<b>Figure. 1. CO2Bio leakage areas map</b>	<b>8</b>
<b>Figure. 2. Project Boundary Map</b>	<b>32</b>
<b>Figure. 3. Eligible areas 2020</b>	<b>33</b>
<b>Figure. 4. Map of burned areas</b>	<b>49</b>

## 1. ABSTRACT

CO2Bio is a biodiversity conservation strategy that leverages the implementation of economic incentives for reducing emissions from deforestation and degradation to mitigate the threat of habitat loss associated with forests with different degrees of intervention in private land in the departments of Casanare, Arauca, and Vichada.

For this verification, the project was updated to the latest version of the Proclima standard and methodology for REDD+ projects in order to fully comply with all national regulations. In this sense, the baseline and calculation methodology were updated, the FREL values were used in terms of emission factors for the Orinoquia biome and the adjustment for national circumstances. The leakage area is adjusted according to the criteria of the methodology, thus projecting the change in forest area per year (**CSBF, year**) based on the trend of the 2005-2015 period. It also includes the projection of emissions reduction due to avoided degradation. Likewise, the monitoring plan is adjusted following the conditions established by the methodology and the standard.

For the monitoring report, the verification of the change in forest area (CFA) in the project boundaries, the progress report of REDD+ activities, Safeguards compliance report, permanence report and project emissions report are evidenced.

Emission reductions from deforestation for the period January 1, 2020, to December 31, 2020, amount to **17,208 tCO<sub>2</sub>e** and emission reductions from degradation for the period 2015-2020 (six years) amount to **44,594 tCO<sub>2</sub>eq** for a total emission reduction of **61,802 tCO<sub>2</sub>eq**.

## 2. INTRODUCTION

The CO2Bio initiative is being developed in an area of forest located in private rural properties in the departments of Casanare, Arauca, and Vichada, and seeks to mitigate the threat of habitat loss associated with forests with different degrees of intervention through the implementation of economic incentives for carbon sequestration.

The project proponents are the Cataruben Foundation (project owner) in partnership with the U.S. Agency for International Development (USAID) Natural Wealth program and the landowners who have signed a contract for the implementation of conservation and climate change mitigation activities.

The work area comprises 42,406 hectares distributed in 44 private rural properties, located in the departments of Casanare, Arauca, and Vichada, more specifically in 14 villages in 10 municipalities of the aforementioned departments, with a total eligible area of 9858 hectares of forest considering the validation of the project.

The start date of the CO2Bio project is January 1, 2015, at the time that biodiversity conservation and governance activities begin on the properties, developing field trips, identifying the type of forest and environmental conditions, with the objective of joining efforts to reduce GHG emissions and bearing in mind the different co-benefits resulting from the implementation of the CO2Bio project, a 40-year accreditation period is defined for the Project. The first verification process was carried out between January 1, 2015 - December 31, 2019, with an emissions reduction value of 258,970 (t CO<sub>2</sub>) for the project in the 5-year monitoring period, calculated only for the avoided deforestation emissions reduction activity.

Finally, it is expected to be verified in the period from January 1, 2020, to December 31, 2020, where the project was updated following the national regulations that apply to climate change mitigation initiatives and payments for results, at the same time REDD+ safeguards were included using the most recent versions of the Proclima International standard and methodology as documents.

### 3. SECOND VERIFICATION

The validation of the project and its first verification was carried out using the guidelines of the Colombian Technical Standard NTC 6208 Mitigation Actions Land use, land-use change, and forestry (LULUCF) At The Rural Level, Incorporating Social And Biodiversity Considerations, for the quantification of the reductions and eliminations of GHG emissions generated in REDD+ projects at the mosaic and landscape scale; the Clean Development Mechanism was used to calculate the emission reductions. AR-AC0003. A/R Large-Scale Consolidated Methodology. Afforestation and reforestation of lands except wetlands Version 02.0.

However, taking into account the update of Colombian regulations; Resolution 1447 and Resolution 0831 which modified Resolution 1447 of the Ministry of Environment and Sustainable Development, which aims to regulate the Monitoring, Reporting and Verification System (MRV) of mitigation actions at the national level, in relation to the GHG Emission Reduction and Removal Accounting System and the National Registry of Greenhouse Gas (GHG) Emission Reduction, the respective updates were applied following the guidelines of Chapter 2 with articles 10 - 13 - 16 - 17 and Chapter 3 with articles 21 - 24 - 29 - 40 - 41.

In addition, since the CO2BIO project is registered in the PROCLIMA INTERNATIONAL program, the guidelines of the following documents and tools are followed:

- PROCLIMA. 2021. Certification and Registration Program for GHG Mitigation Initiatives and Other Greenhouse Gas Projects. PROCLIMA PROGRAM. Responsibility and Quality. Version 3.0.

- PROCLIMA. 2021. AFOLU SECTOR METHODOLOGY DOCUMENT. Quantification of GHG Emission Reductions or Removals from REDD+ Projects. Version 2.2. (February 2021).

In view of the above, the project carried out the following updates during this verification:

1.1.1. Baseline update from the most recent Forest Emission Reference Level (FREL) (2019), through the methodological reconstruction of the FREL in the project area and following the Proclima methodology for calculations. In this sense, national values are used in terms of emission factors and adjustment for national circumstances. The leak area is also adjusted following the criteria of the methodology. In addition, emission reductions for avoided degradation are added.

2.1.1. Update of the monitoring plan including monitoring plan for: project boundaries, REED+ safeguards and permanence monitoring.

Finally, the monitoring report is presented as follows:

- Monitoring of the project limits in the period from January 1, 2020, to December 31, 2020 (1 year).
- Emission reductions from avoided deforestation in the period from January 1, 2020, to December 31, 2020 (1 year).
- Emission reductions from avoided degradation in the period 2015-2020 (6 years).
- Monitoring of project activities in the period from January 1, 2020, to December 31, 2020 (1 year).
- REDD+ safeguards monitoring 2015-2020 period (6 years).
- Permanency monitoring for the period January 1, 2020, to December 31, 2020 (1 year).

## 4. BASELINE UPDATE

The baseline was updated in terms of emission factors and adjustment for national circumstances (%CN) described in the FREL submitted by Colombia to the UNFCCC in 2019. The baseline was established for the project area and the leakage area, the reference periods 2005-2015 were maintained; in addition, degradation was included following the guidelines of the Proclima methodology based on the document of the national forest and carbon monitoring system "Estimation of forest degradation in Colombia through a fragmentation analysis".



## 4.2. EMISSIONS REDUCTION FROM AVOIDED DEGRADATION

To include the reduction of emissions due to degradation, the steps established in the methodology were followed; non-forest forest data from IDEAM were taken for three dates, the initial year of the reference period (2005), the final year of the reference period (2015) and an intermediate period between these two dates (2010). These data were processed with the "Landscape fragmentation tool" of the ArcGIS software, to determine the fragmentation classes of the forest cover in the reference area and leakage area.

Subsequently, the layers resulting from the previous step were compared in order to determine the areas that showed changes from one period to another and thus define the degraded areas and the type of degradation. Based on the degradation trend in the reference region, the baseline scenario without project was projected, then, with the formulas of the methodology, the calculations of the emission reduction projection in a scenario with project were made. Column 4 of Table 2 "Baseline update" shows the emission reduction projections for avoided degradation. The calculation procedure can be found in Annex "2. Calculations\_LB\_Monitoring\_2020\_v2. xls".

## 4.3. ADJUSTED BASELINE

The calculation tables for the baseline adjustment can be found in the annexes folder (ANNEX CALCULATIONS OF THE CO2Bio PROJECT), in the Excel workbook "2. Calculations\_LB\_Monitoring\_2020\_v2" Sheet 1. Deforestation\_LB" and Sheet "2. Degradation\_LB". In the calculations of emissions from deforestation, the emission factors for the Orinoquia Biome established in the FREL submitted by Colombia to the UNFCCC in 2019 are included. Likewise, the adjustment for national circumstances established in the FREL was included in the projection of the Baseline scenario.

Regarding the adjustment for National Circumstances (% CN), the FREL mention "Since the beginning of the peace talks between the Colombian State and the FARC in 2012, experts foresaw that the process, while culminating an internal conflict whose resolution had been a longing of the Colombian people for decades, could paradoxically have impacts on forest intervention, mainly due to changes in access to areas restricted during the armed conflict and the lack of planning for the sustainable development of these territories. *The results of monitoring and socioeconomic information collected by the Forest and Carbon Monitoring System (FCMS) have shown that there has been increased human pressure on forest resources since 2013. This was ratified by LULUCF experts in the technical analysis report of the technical annex of the Second Biennial Update Report of Colombia, who concluded that the effects on deforestation dynamics*

began with the start of the peace negotiations in 2013 and that recent deforestation rates do not yet show a change towards a decreasing or stabilizing trend. Therefore, they consider that the data provided by Colombia indicate that the transition period, after which there will be a decrease or stabilization of the deforestation rate, is likely to be longer than initially expected".

As evidence of this process, a 44% increase in deforestation was verified between 2015 and 2016 (124,035 ha/year to 178,597 ha/year), and 23% between 2016 and 2017 (178,597 ha/year to 219,973 ha/year respectively).

Based on this analysis, an adjustment for national circumstances was projected through a national logistic model using the variables: a) Change in forest area in the period 2000-2016 b). Estimation of the deforestation growth rate and c). Calculation of the forest susceptible to deforestation. With this, the most conservative percentage increase in deforestation per Biome was projected and the sum for the whole country was projected as follows:

**Table 1.** Adjustment for national conditions

CN YEARS	% CN
2018	31,77%
2019	38,58%
2020	44,59%
2021	49,62%
2022	53,55%

For our baseline adjustment we considered this national average value which is the most conservative and projected it in our calculations as indicated in the methodology on page 40, footnote 37 "The project holder may adjust the value of CSB REDD+proy,year following the guidelines in the annex for estimating the adjustment for national circumstances.

[https://redd.unfccc.int/files/31122019\\_anexo\\_circunstancias\\_nref\\_nal\\_v7.pdf](https://redd.unfccc.int/files/31122019_anexo_circunstancias_nref_nal_v7.pdf)."

In this order of ideas, Table 2 shows the emission reduction estimates for deforestation and avoided degradation, not including deforestation reductions for the period 2015-2019 because they have already been verified but including the projected reductions for degradation from the start date of the project from 2015 to 2020 (6 years). It should be noted that Table 2 shows the projection according to the trend of the reference area, leakage area in the period 2005 -2015 and the projection of reductions according to the project activities, always taking **conservative values**. The emissions monitoring section shows the actual reductions for the current monitoring period.

**Table 2.** Baseline update

PERIOD	YEAR	REDEF,REDD+proy (tCO2e)	REDEG,REDD+proy	REDD total year
1	2015	-	7.721	7.721
2	2016	-	7.780	7.780
3	2017	-	7.741	7.741
4	2018	-	7.666	7.666
5	2019	-	7.602	7.602
6	2020	11.000	7.526	18.527
7	2021	11.547	7.464	19.011
8	2022	11.964	7.428	19.392
9	2023	11.928	7.355	19.282
10	2024	11.892	7.294	19.186
11	2025	11.856	7.220	19.076
12	2026	11.820	7.161	18.980
13	2027	11.784	7.127	18.910
14	2028	11.748	7.056	18.804
15	2029	11.712	6.998	18.710
16	2030	11.676	6.927	18.603
17	2031	11.641	6.869	18.510
18	2032	11.605	6.838	18.443
19	2033	11.570	6.769	18.339
20	2034	11.534	6.713	18.248
21	2035	11.499	6.645	18.143
22	2036	11.464	6.590	18.053
23	2037	11.428	6.560	17.989
24	2038	11.393	6.494	17.887
25	2039	11.358	6.441	17.799
26	2040	11.323	6.374	17.697
27	2041	11.288	6.321	17.609
28	2042	11.253	6.294	17.547
29	2043	11.219	6.230	17.449
30	2044	11.184	6.179	17.362
31	2045	11.149	6.114	17.263
32	2046	11.115	6.063	17.178
33	2047	11.080	6.038	17.118
34	2048	11.046	5.976	17.022
35	2049	11.011	5.927	16.938
36	2050	10.977	5.864	16.841

37	2051	10.943	5.816	16.759
38	2052	10.909	5.793	16.701
39	2053	10.875	5.733	16.608
40	2054	10.841	5.685	16.526
TOTAL		398.629	268.390	667.020

Source: Cataruben Foundation

## 5. MONITORING PLAN UPDATE

The monitoring plan established for the CO2Bio project was updated in terms of project boundaries, REDD+ safeguards and permanence, including the definition of indicators for monitoring, reporting and verification in the project's action window.

### 5.1. PROJECT BOUNDARIES

The monitoring of the project boundaries will be developed at each periodic verification, following a Geographic Information System (GIS) for the reference region, the total project areas, the eligible areas and the leakage belt; the above as stipulated in the item Spatial and Temporal Limits of the previously validated Project Description Document.

### 5.2 REDD+ SAFEGUARDS

The CO2Bio project has designed a series of activities with their respective indicators to monitor compliance with the REDD+ social and environmental safeguards defined for Colombia. This has sought to prevent the environmental and social risks of the project, thus avoiding the affectation of social, economic, and cultural rights of the landowners and their families. Table 2 establishes the monitoring plan with the projection of the indicators to be measured for each safeguard, followed by a description and evaluation of each of the 15 safeguards in the context of the CO2Bio project. The monitoring report section evaluates the progress of the goals for the period 2015-2020 (six years).

**Table 3: Safeguards monitoring plan**

Safeguard ID	Type	Indicator name	Goal	Unit of measurement	Monitoring methodology	Monitoring frequency	Responsible
1.1 Correspondence with national legislation.	Contribute to and be consistent with national objectives.	Declaration of Civil Society Nature Reserves	60%	Percentage of properties declared and strengthened as CSNR (%)	Obtaining resolutions that approve the declaration	Annual	Social Unit
2.1 Transparency and access to information.	Contribute to guaranteeing the right to information.	Registration and updating in the RENARE platform.	33	Annual update	Review in the RENARE platform of the activities carried out.	Annual	Project manager
3.1 Accountability.	Strengthen transparency in the development of the project.	Biodiversity and Carbon Credits Forum	33	Number of forums held.	Attendance record and forum report.	Annual	Relationship area
4.1 Recognition of forest governance structures.	Identify the degree of implementation of activities that ensure governance	Recognition and strengthening of forest governance on the land properties.	44	Number of characterizations carried out	Photos, personnel contracts, housing on the land property, etc.	Annual	Social Unit
5.1 Capacity building.	Strengthen technical and legal skills in project-related issues.	Trained people	88	People trained by number of land properties	Visits to the land properties for training and information gathering	Annual	Social Unit
6. Free, Prior and Informed Consent	NOT APPLICABLE						
7.1 Respect for traditional knowledge	Integrating traditional knowledge into the implementation of REDD+ activities.	Household diagnosis and beneficiary tradition	44	Premises with characterized home, traditions, and context	Surveys and processing of results	Every 2 years	Social Unit
8.1 Profit sharing	Contribute to making the project sustainable for the owners and their families.	Land properties with higher economic benefits resulting from conservation	44	Families benefited with economic income	Carbon certificates traded per land property	Every 5 years	Project manager
9.1 Territorial rights	Contribute to guarantee the land rights of landowners.	Characterization and strengthening of land-use planning	44	Land properties with plans or property records completed and updated.	Elaboration and updating of land property plans	Every 5 years	Land property unit

10.1 Participation	Ensuring full and informed participation of owners	Beneficiaries with full and effective project information throughout the project	100%	Direct beneficiaries with full information on the stages of the project	Signing of the binding and update contracts by the two parties	Every 12 years	Land property unit
11.1 Forest conservation and biodiversity	Conservation of the biodiversity of forest areas and biological diversity	Participatory monitoring strategy for focal species, High Conservation Values, and threats to biodiversity.	20	Monitoring stages carried out	Implementation and follow-up on the development of the executed stages of the participatory monitoring strategy.	Every 2 years	Biodiversity unit

13



12.1 Provision of environmental or ecosystem goods and services	Mapping the ecosystem integrity of the project's forests.	Ecosystem integrity assessed by forest structure and composition	7	Analysis performed	Remote sensors	Every 5 years	Biodiversity and GIS Unit
13.1 Environmental and territorial management	Contribute to regional environmental management	Linking and strengthening protected areas management mechanisms	5	Territorial planning and management instruments related to REDD+ activities being implemented.	Relationship between the Regional Environmental Plan PRICCO, the Regional System of Protected Areas (SIRAP in Spanish) of the Orinoco and the REDD+ activities of the project.	Annual	Social Unit
14.1 Sector planning	Contribute to environmental and forest management	Consistency with environmental planning and management legislation	44	Creation and monitoring of compliance with the Management Plan 2015-2054: forest areas under the REDD+ strategy.	Follow-up on compliance with the Management Plan	Every 5 years	Social Unit

15.1 Forestry control and monitoring to avoid displacement of displacement of emissions	Reduce the possible displacement of emissions due to the displacement of the causes and agents of land use change	Emission control	leakage	33	Deforestation rate of the calculated leakage area	Spatial analysis	Annual	SIG Unit
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*Source: Cataruben Foundation*

### 5.2.1. Correspondence with National Legislation, International Agreements and National Policies.

The CO2Bio project takes as its regulatory framework the national and international legislation that covers REDD+ projects in Colombia. In this sense, Table 4 describes the regulations governing the initiative.

Given that some of CO2bio's properties will be declared as RNSC and integrated management will be carried out under sustainability criteria that guarantee the conservation of natural ecosystems and environmental goods and services, the project is in direct accordance with Decree 1996 of 1999.

**Table 4. Legislation and agreements in connection with the CO2Bio project**

Regulation	Application Context
Decree 2811/1974	Compliance with Article 44, which establishes principles for the management of natural resources to promote a balance between economic development, environmental protection, and the efficient use of resources.
Law 164 of 1994	The UNFCCC is ratified and, in accordance with national circumstances, measures are adopted to reduce emissions from deforestation and forest degradation.
Forestry policy (1996)	The overall objective is to achieve a sustainable use of forests to conserve them, consolidate the incorporation of the forestry sector into the national economy and improve the population's standard of living.
The Law of Forest Reserves (Law 2 of 1959)	It establishes a classification and management regime for lands under its purview, including public lands, indigenous reserves, and Afro-Colombian lands.
Green Plan 1998	Its main objective is the inclusion of agroforestry, conservation, and ecological restoration in the environmental management of the territory and the recovery of degraded ecosystems.
Law 620 of 2000	Approving the Kyoto Protocol of the UNFCCC, which committed countries to stabilize GHG emissions, based on the principle of common but differentiated responsibilities.
Decree 3570 of 2011	Establishes functions for the Ministry of the Environment and its dependencies and affiliated institutions. Establishes that the Directorate of Forests, Biodiversity and Ecosystem Services is responsible for developing and coordinating the implementation of the National Forestry Development Plan.
Law 1753 of 2015	Guidance for the Implementation of the National Strategy for Reducing Emissions from Deforestation and Forest Degradation
Decree 926 of 2017	Its purpose is to regulate the procedure to make effective the non-payment of the national carbon tax.

Resolution 1447 of 2018	By which the system for monitoring, reporting and verification of mitigation actions at the national level is regulated, in relation to the GHG Emissions Reduction and Removal Accounting System, which includes REDD+ actions.
2030 Agenda for Sustainable Development	The Millennium Development Goals, focused on poverty eradication, and the Rio+20 process on Sustainable Development have resulted in the "2030 Agenda for Sustainable Development". This commitment was adopted by the Heads of State and Government on September 25, 2015 during the 2015 United Nations Summit for Sustainable Development.
CONPES 3918	The Sustainable Development Goals (SDGs) are the product of a general global consensus on a measurable framework to achieve minimum levels that guarantee prosperity, the well-being of people and the conservation of the environment.
Decree 1996 of 1999	By which Articles 109 and 110 of Law 99 of 1993 on Civil Society Nature Reserves are regulated. The project complies with this decree to the extent that it supports the declaration of land as Civil Society Nature Reserves.

*Source: Cataruben Foundation*

In addition to the above, the project's REDD+ activities are articulated with the goals of the 2018-2022 Development Plan, as shown in the following tables.

**Table 5. Lines of action in common with the National Development Plan 2018-2022.**

Government pacts	Objectives	CO2Bio Project Relationship
Sustainability pact: producing by conserving and conserving by producing	Sectors committed to sustainability and climate change mitigation	The CO2Bio project seeks to contribute to mitigate climate change by reducing greenhouse gases generated by deforestation and forest degradation for other activities, through the conservation of this ecosystem, which is susceptible to other anthropogenic activities.
	Biodiversity and natural wealth: strategic assets of the Nation	The direct relationship between forests and biodiversity in general, allows the CO2Bio project to generate actions for the conservation of the ecosystem in general.
	Resilient Colombia: knowledge and prevention for disaster risk management and climate change adaptation	Among the activities of the CO2Bio project, is to train people who are part of the CO2Bio project, on climate change issues, and the importance of forest conservation in the face of this challenge of adaptation and mitigation.
	Modern environmental institutions, social appropriation of biodiversity and effective management	By promoting the care of the forest ecosystem in private properties and strengthening the intervention in participation mechanisms that bring together different landowners and the local community in general, the appropriation of biodiversity is important for these communities, and also strengthens

	of socio-environmental conflicts.	community and state institutions related to the management of these conflicts.
Pact for the protection and promotion of our culture and development of the orange economy	We are all culture: the essence of a country that transforms itself from its territories	The conservation activities proposed in the CO2Bio project fully consider the cultural and traditional knowledge of the communities belonging to the project region, constantly involving them in the actions that strengthen the project.
Women's equity pact	Equity for women in peace building	Equity for women in peacebuilding. Nearly half of the owners of the private land belonging to the CO2Bio project are women, which first of all reveals that land tenure is no longer only a matter of male gender, however, it also reveals that many of the activities that are developed in each property will be led by women, which favors gender equality. In addition, it is expected to train not only women landowners, but also those in charge of the farms and girls, in forest conservation and preservation, climate change, biodiversity care and other topics related to the CO2BIO project.
Llanos-Orinoquia Region Pact: Connecting and enhancing the region's sustainable pantry with the country and the world	Objective 2: Boost productivity and improve the efficiency of agricultural, agroindustrial and tourism clusters and value chains.	Directly, the CO2Bio project seeks to promote new economic activities such as eco-tourism in favor of the conservation of the forest ecosystem.

Source: Cataruben Foundation

Likewise, regarding the chapters and objectives of the National Development Plan 2018-2022, the CO2Bio project activities to which it relates are mentioned below:

**Table 6: Lines of action in common with the National Development Plan 2018-2022:**

CHAPTER	OBJECTIVE	CO2BIO PROJECT ACTIVITIES
Equitable Colombia without extreme poverty	Objective 2: Reduce population gaps in terms of income	In general, the CO2Bio project carries out biodiversity conservation initiatives, especially in the forest ecosystem, which, in the market, functions as an economic income mechanism for the environmental services offered by these ecosystems, so that the owners of the land where these natural resources are located can receive economic values for their conservation.

Transformation of the countryside	Accelerate the emergence from poverty and the expansion of the rural middle class through a commitment to productive inclusion of rural dwellers.	Farmers who have an economic deficit even though they have land they can take advantage of, find in the CO2Bio project, in the first place, the possibility of acquiring economic resources for the conservation of the natural forest, however, they also find technical and scientific support to promote agriculture in existing areas, strengthening productivity from the respect for the zoning of the property.
Green growth	Objective 2: To protect and ensure the sustainable use of natural capital and improve environmental quality and governance.	The CO2Bio project is related to this objective since it protects natural capital, conserving, restoring and reducing forest degradation, which leads directly to the reduction of deforestation, strengthening the capacity of forests to be carbon sinks and providers of other ecosystem services.
	Objective 3: Achieve resilient growth and reduce vulnerability to disaster risks and climate change.	The CO2Bio project strengthens knowledge through training and workshops on issues related to climate change and its management in adaptation and mitigation measures.
Environment, agribusiness, and human development: growth and wellbeing for the Plains	Objective 2: Manage the territory prospectively according to its environmental, agricultural, mining-energy and cultural vocation, by increasing institutional capacities throughout the region.	In accordance with the strategies of this objective, the CO2Bio project is related to the integral management of forests, implementing strategies such as the declaration of Civil Society Nature Reserves and other conservation initiatives.

*Source: Cataruben Foundation*

### 5.2.2. Transparency and Access to Information

The CO2Bio project will share public information related to the project in a transparent manner, for this purpose there is a web page from the proponent organization, where the legality of the project and the Foundation in general will be evidenced. Likewise, the project will be updated annually on the RENARE platform.

In addition, taking into account that some of the landowners have little possibility of permanent access to the internet, a strategy will be created to disseminate information about the project through the website, social networks and WhatsApp communication, this information will include the disclosure of socio-environmental benefits for landowners and their properties, as well as the commitments of all stakeholders, and a section to make Petitions, Complaints, Claims, Suggestions (PCCS).

**5.2.3. Accountability:**

The CO2Bio project will periodically hold an event called "Biodiversity and Carbon Forum", where public and private entities, owners of the properties that are part of CO2Bio and the general public will learn about the progress of the project and will be informed of the fulfillment of the objectives. The project partners, as well as institutions and other interested parties will participate in this forum and present their opinions on the project.

**5.2.4. Recognition of Forest Governance Structures**

For the CO2Bio project, it is essential to strengthen the principles of forest governance to the landowners, who are the first-line decision-makers about the forests and the biodiversity that inhabits their private property. This strengthening will be done through the recognition of key actors and the generation of a governance mechanism that will help strengthen the actions and articulate the actors that are part of CO2BIO. This mechanism will consist of participatory sessions with representatives of the owners, the project owner and other key stakeholders, following the methodology of "structural analysis", a tool for structuring a collective reflection, which offers the possibility to describe the project and systematically plan its development, with the help of a matrix that relates all the constituent elements of the CO2Bio project, among these elements are both relevant actors for the project and variables that shape it or come from its environment.

**5.2.5. Capacity Building:**

The owners of the land properties that belong to the project will be trained in the following topics and the implementation of knowledge and skills in the execution of activities on their land properties will be followed up:

*Table 7. Capacity building*

ISSUE	DESCRIPTION	OBJECTIVES
Training in sustainable ecosystem management	Sustainable ecosystem management is defined as the practices that must be carried out in a responsible manner that contribute to the conservation of all existing ecosystems in order to guarantee their permanence over time.	<ul style="list-style-type: none"> <li>- Encourage sustainable management practices of the resources found on the land property that promote conservation.</li> <li>- Raise awareness among landowners about ensuring good management of the resources found on their land properties, and to guarantee their availability for future generations.</li> <li>- Highlight the importance of adopting good practices for the development of activities on the property.</li> </ul>

Biodiversity conservation training	Highlight that Biodiversity conservation encompasses the protection of endangered species of fauna and flora, and the recovery of degraded ecosystems due to the pressures we exert on our territory with actions such as the elimination of habitats for wildlife through deforestation, contamination of soils and aquifers due to the expansion of the agricultural frontier in an unsustainable manner, highlighting the forest unit as fundamental in the processes of conservation of fauna species and maintenance of biodiversity.	<ul style="list-style-type: none"> <li>- Promote conservation practices of fauna species found in forests.</li> <li>- Raise awareness among landowners that forests play a fundamental role in the maintenance of biodiversity.</li> <li>- Promote practices aimed at resolving human-animal conflicts.</li> </ul>
Training in land planning	Land property planning is a strategy based on knowing the status and relationship of all the components of a farm, its strengths, and weaknesses, in order to guide its development possibilities, define the actions to be taken and the order of implementation for each family.	<p>Train owners, families, managers, and workers in land planning, which allows them to have a clear idea of the past, present and future of the property, aiming to achieve the main objective of the CO2Bio project, which is based on the conservation of the forest ecosystem and its associated biodiversity.</p> <p>It is a tool to identify the different zones of the property and the natural resources associated with the land, as well as the shortcomings and aspects to be improved in terms of such zoning. On average, it defines: the location of the houses, crops on each of the farms, rivers and bodies of water, access roads to the farms, water sources, deep wells, river catchment points; pastures for livestock and crops, forest areas, water tanks and reservoirs; corrals and stables; identify burning areas and septic tanks; storage areas.</p>
Climate change trainings	Training whose main objective is to raise awareness of the role and importance of citizen participation mechanisms, specifically those mechanisms that are exercised in the project's area of reference and that can contribute to the fulfillment of mitigation activities.	<p>Train landowners on climate change and Greenhouse Gases (GHG), and the relationship with the CO2Bio project.</p> <p>Promote and strengthen the issues of laws, organization, leadership, oversight and inter-institutionality, so that forest governance is exercised in the properties.</p> <p>Train owners and collaborators in sustainable livestock practices.</p>

Source: Cataruben Foundation

### **5.2.6. Free, Prior and Informed Consent (FPIC):**

Within the CO2Bio project area, there are no ethnic communities or activities that impact the collective territories of these communities, as these are only carried out in the area of the properties participating in the project. In this sense, the population involved in the CO2Bio project are only the landowners and their families.

### **5.2.7. Recognition of Traditional Knowledge:**

In the CO2Bio project, the ancestral knowledge of peasant communities and of the “llanera” tradition is essential for the development of mitigation activities. Therefore, each of the activities will be subject to respect and recognition of the visions of the territory, which the owners and their families have.

Within our activities to reduce emissions due to deforestation, in component 2 is "Implement training and support processes to strengthen sustainable forest management and biodiversity conservation", education is a key tool to give value and proper management to the environment, particularly forests and their biodiversity. Specifically, it seeks to embrace the ancestral and traditional knowledge of the peasant communities, to relate it to technical and scientific knowledge, resulting in better guidance in decision making around land use planning and sustainable forest management.

### **5.2.8. Profit Sharing**

In the project area, before the project began, the landowners were engaged in very limited activities to generate cash income, mostly livestock production and its by-products. They also depend on agricultural activities based on crops that generate small incomes. These factors, combined, result in the degradation and loss of vegetation cover, resorting to logging to increase the work areas for their sources of household income.

The implementation of the project's REDD+ activities will generate benefits for the communities and the environment in the project area, allowing the main objectives of the CO2Bio project to be met in terms of community and biodiversity. These benefits are related to strengthening the social conditions of the landowners through the generation of complementary income from the sale of the first carbon credits for the conservation of the forest and associated biodiversity and the improvement of governance through the planning and implementation of land use. At the same time, REDD+ activities contribute to the development of economic activities and sustainable livelihoods by training the community in climate, forestry, agriculture, and livestock issues to generate increased income from their productive activities.

It will also contribute to improve the administrative capacity of the landowners, preserving the customs and cultural roots and environmental awareness through activities that contribute to the inclusion of women in the implementation of project

activities and contributing to the increase of employment in the community to support project activities.

### **5.2.9. Land Rights**

Although the CO2Bio project does not develop its activities with ethnic communities, the local communities that participate are the peasants of the Orinoquia region, as well as the entire Colombian peasantry, this population has a series of rights that must be guaranteed, one of them is their right to land and territory, which is protected by the Political Constitution and the laws of the Colombian State.

The CO2Bio project through its activities strengthens the fulfillment of these rights, especially the right to the adequacy of their land through the generation of income from the conservation of forests and biodiversity, as well as helps to strengthen the right to the sustainability of land and territory, which contribute significantly to the protection of the environment, being sustainable, which contributes directly to ensure access to other rights such as education, food, work, a healthy environment, among others.

To this end, participatory land use plans will be developed, which will establish a plan for sustainable land use, production systems and the design of strategies that will help to enhance and make sustainable use of natural resources.

### **5.2.10. Participation:**

The main objective of the CO2Bio project is to guarantee the full participation of the landowners in the implementation of the activities, specifically to support the transmission of new knowledge and the dialogue and participation in decision making regarding project activities. To this end, meetings, workshops, and forums will be held with the participation of all interested parties, guaranteeing the full participation of landowners and beneficiaries in decision-making regarding project activities. In addition, the participation of public and private entities working in biodiversity conservation, rural development and territorial planning will be promoted.

The project will also strengthen communication strategies with landowners for decision-making and planning activities and encourage their participation in bodies such as the Regional System of Protected Areas (SIRAP in Spanish) of the Orinoco region or the Municipal System of Protected Areas (SIMAP in Spanish) of San Luis de Palenque and Trinidad, municipalities where some of the CO2Bio project properties are located. In addition, they will integrate the 44 landowners and their families in a participatory monitoring of biodiversity through 5 study nuclei, according to the geographic distribution of the properties in the project area. The landowners will actively participate in each of the phases of this monitoring.

### **5.2.11. Forest and Biodiversity Conservation**

The CO2Bio project will establish a participatory biodiversity monitoring strategy through stages in which primary and secondary information will be collected, with the objective of recognizing and strengthening the traditional knowledge of landowners and generating new technical capacities based on scientifically valid biodiversity sampling methods. Participatory monitoring will integrate three important aspects to achieve the conservation of forests and their biodiversity, which will be explained below:

- Selection and monitoring of focal species: Important conservation species found in the project area will be identified, such as endangered species, endemic species or those that are considered flagship, umbrella or bioindicator species. Participatory monitoring will be focused on these species, with the objective of maintaining or improving their populations in the medium and long term.
- HCV identification and management: The project area will be assessed for High Conservation Values (HCVs), describing their status, trends over time and threats to their existence. The HCVs identified will be considered as possible focal species and sampling areas for participatory monitoring.
- Biodiversity Threat Analysis: Biodiversity threats in the project area will be determined (i. Habitat loss and degradation, ii. Climate change, iii. Excessive nutrient loading and other forms of pollution, iv. Overexploitation and unsustainable use, v. Invasive species), and the effect of these at the ecosystem and species level will be estimated.

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### **5.2.12. Provision of Environmental or Ecosystem Goods and Services:**

The capacity of forests to provide environmental or ecosystem goods and services is closely related to their ecosystem integrity (EI). By assessing the components of EI (structure, function and composition), the forest's capacity to support biodiversity at the level of communities and populations of organisms, as well as the capacity to provide ecosystem goods and services, can be evidenced (Hansen, Noble, Veneros, et al., 2021; Brockerhoff, et al., 2017).

To assess forest EI, there are a large number of indices that can be estimated by remote sensing and *in situ* observations, which allow quantitative estimates of forest structure, function and composition. These indices have also been included in the Essential Biodiversity Variables (EBVs) system, as they provide information on the ecological quality of the forest area evaluated (Hansen, Noble, Veneros, et al., 2021). Accordingly, in the CO2Bio P1 project the following indices will be estimated to evaluate that the forests in the project area have the capacity to provide ecosystem goods and services.

**The Forest Structure Condition Index (FSCI)** and the **Forest Structure Integrity Index (FSII)** have in common the analysis of disturbances resulting from the level of human pressure, these variables are too sensitive, due to the inexistence of a measurement method in the project area that allows quantifying human pressure in small spaces. In addition, secondary information, such as international databases that measure these indices, do not describe the Orinoquia region within their area of interest.

First, the Forest Landscape Integrity Index (FLII) functions as an indicator of the degree of forest intervention due to anthropogenic activity (Grantham, H.S., Duncan, A., Evanst, T. D, et al., 2020).

To evaluate forest composition, **the Intact Biodiversity Index (BII)** will be estimated for plant and vertebrate groups in the project area. This indicator corresponds to the average abundance of a broad and diverse set of organisms in each geographic area, in relation to their reference populations (Scholes & Biggs, 2005).

**5.2.13. Environmental and Land Management**

The activities and objectives of the CO2Bio project are consistent with the land use and biodiversity conservation vocation of the Land Management Plans. It is especially related to the Regional Environmental Plan 2013-2025 and the Regional Comprehensive Climate Change Plan for the Orinoquia. The project activities related to these objectives are presented below.

Additionally, within the framework of the CO2Bio project, the Cataruben Foundation will participate in the Regional System of Protected Areas (SIRAP in Spanish) of the Orinoco, the Departmental System of Protected Areas (SIDAP) of Casanare, the Municipal System of Protected Areas (SIMAP in Spanish) of San Luis de Palenque, which integrate the Natural Reserves of the Civil Society of the region and have an impact on the actions to improve the conservation of forests and ecosystems of the properties of this municipality that are also part of the CO2Bio project..

**Table 8.** Lines of action in common with the Regional Environmental Plan 2013-2025

Strategic line	Strategic component	Goal	co2bio activities
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2	Creation of a regional system of protected areas	Forming the network of civil society nature reserves in the Orinoco region	Technical and procedural support is provided to landowners to declare their land as civil society nature reserves.
		Ecological restoration of degraded ecosystems strategic for the conservation of biological diversity.	A forest management plan is defined and implemented for the project area, which allows the owners to exercise this forest governance, one of the proposals of the FMP is natural restoration, which promotes the conservation of biological diversity
			The community is trained in the conservation of biodiversity associated with forests.
			The community is trained in the sustainable management of ecosystems, specifically in forest management
			Technical and scientific support is provided to comply with the conservation agreements acquired for the execution of the co2bio project.
			Workshops and support are conducted on how to demarcate the forest boundaries in a didactic and legible way, which can be easily understood by the entire community.
			Workshops based on agroforestry techniques according to local crops, which can be implemented by project beneficiaries.
Strategic line 5	Preparedness for environmental risk management	Raise awareness and train communities in climate change mitigation and adaptation practices in Corporinoquia's jurisdiction.	Training of landowners on climate change and greenhouse gases (GHG) and the relationship with the co2bio project.
Strategic line 6	Community stakeholders involved in the environmental processes of the territory	Consolidate a network of environmental allies in the jurisdiction's territory.	Training: whose main objective is to raise awareness of the role and importance of citizen participation mechanisms, specifically those mechanisms that are exercised in the project's area of reference and that can contribute to the fulfillment of mitigation activities.
		Consolidate a citizen participation strategy focused on socio-environmental monitoring.	

*Source: Cataruben Foundation*

**Table 9. Lines of action in common with PRICCO (in Spanish)**

Adaptation measures	CO2BIO Activities
Recovery and rehabilitation of water catchment areas:	Forest management plan: The vegetation protecting the water sources is preserved.
Recovery of riparian forest:	Forestry management plan: The use of agrochemicals in productive activities on the property is minimized and their use is avoided in nearby areas or directly in the watershed of bodies of water, rivers, streams or ponds.
Site-specific agriculture:	Boosts agriculture on existing farmland.
Landscape connectivity:	Forest management plan (OBJ 2): Establishes silvicultural, restoration, rehabilitation and recovery activities and techniques for forest areas with some degree of anthropogenic intervention
Promotion of civil society reserve areas:	Provides technical and procedural support to landowners in the declaration of their properties as Civil Society Nature Reserves.
Mitigation measures	CO2BIO Activities
Programs and campaigns aimed at reducing deforestation:	In general, all the initiatives and actions targeted by the CO2Bio project are aimed at reducing deforestation in the project's reference area.
Landscape connectivity through biological corridors:	Forest management plan: Natural restoration allows the connectivity of the landscape where it had been lost, which also influences the conservation of biodiversity related to this habitat.
Forest restoration:	Forest management plan (OBJ 3): Ensures the protection and conservation of biodiversity and biological integrity of the forest impact and buffer area through activities that favor its stability over time.
Natural regeneration in paddocks:	Forest management plan (OBJ 2): Establishes silvicultural, restoration, rehabilitation and recovery activities and techniques for forest areas with some degree of anthropogenic intervention.

*Source: Cataruben Foundation*

#### **5.2.14. Sector Planning**

For the CO2Bio project, it is important to highlight the validity of the land tenure of each of the owners, as they have a public deed, a resolution verifying tenure for several decades, and additional documents such as certificates of title, property tax, and a title study. However, in most of the properties the current use of the land is not clear and there is limited awareness of the distribution and different uses that can be given to the property, in many cases affecting the natural resources present.

Given the lack of resources and capacity at the local level, the implementation of REDD+ activities will contribute to the sustainable use of natural resources. To this end, a 2015 -

2054 Management Plan was developed to determine the conservation activities in the forest areas of the properties, for which visits were made and the Management Plan sheets will be monitored over the years. This also established the governance and conservation activities that the landowners are committed to implement in the short, medium and long term. These actions are in line with national legislation that protects the forests, their conservation and the diversity that they harbor, and are especially related to the fulfillment of the objective of the Civil Society Nature Reserves.

#### **5.2.15. Forestry Control and Surveillance**

The CO2Bio project will implement a series of activities to control and monitor the detection of changes in forest composition and structure in the project area. This is achieved through the establishment of an early warning system that will obtain reports on the status of forest cover. In addition to allowing timely decision making to minimize/mitigate risks associated with the degradation and subsequent deterioration of ecosystem services perceived by the forest.

The use of geospatial information (active and passive satellites) is ideal for monitoring the project's Essential Biodiversity Variables (EBVs), especially in leakage areas; the use of geospatial tools for landscape-scale monitoring allows the calculation of deforestation and degradation rates, multi-temporal analysis, time series and determination of pressures based on hierarchical analysis processes, among other indices for biodiversity, soil, fire and water.

In addition to this monitoring measure, informative meetings will be held on the objectives of the project and the negative impacts of deforestation or forest degradation caused by the displacement of its agents and causes. In conjunction with the Panthera organization, measures will also be designed to monitor the forest and its associated biodiversity, which are expected to involve landowners and their families. In addition, a community communication strategy is being designed to provide early warning of fires or other factors in the project area and in areas of leakage.

### **5.3. PERMANENCE MONITORING PLAN**

In accordance with the PROCLIMA standard (Version 3.0 -2021), a reserve of 15% of the total GHG reductions or removals quantified for each verified period is deducted and maintained. This reserve is made in order to guarantee that if events occur that require the replacement of credits placed in the market, this 15% will be used to cover the effects.

Project permanence monitoring will be carried out at each periodic verification previously stipulated by the Project Owner, under the following indicators and following the established procedures:

Table 10. Permanence monitoring.

ITEM	RISK	MITIGATION MEASURE	INDICATOR	PROCEDURE
1	Biophysicist	Fire	# of fires present in the eligible project area.	Fire monitoring is carried out with the help of the "Global Forest Watch" platform, which makes it possible to upload data from the project areas and create alerts for fire detection using VIIRS (Visible Infrared Imaging Radiometer Suite) technology. In addition to satellite monitoring, the impact of the fires was corroborated by field visits.
2		Floods	# of unusual flooding reports	Constant communication is maintained with the owners; in the event of flooding with major impacts, a report will be made by filling out a form, in order to proceed with the measures to be taken.
3	Socioeconomic	Land tenure disputes	# of properties with possession or tenure of the land	The following documents are verified: citizenship card, public deed document, INCODER resolution, the certificate of tradition and freedom, the cadastral certificate and the title study of each property with its contract of connection with the CO2Bio project.
4		Conflict with project stakeholders	# of conflicts between the different parties involved	RCC management procedure
5		Non-appropriation of project activities	# of safeguards monitoring and REDD+ activities	Monitoring of safeguards (social and environmental) and REDD+ activities are carried out in compliance with the contract signed by the landowners.
6		Governance deficit	# of acknowledgements of forest governance structures	Follow-up on the indicator of safeguard #4, which establishes the indicators to determine the level of implementation of governance in the properties.

Source: Cataruben Foundation

### 5.3.1. Biophysical risks

- **Fires:** Taking into account the geographic location and climatic characteristics of the project area, and the anthropic activities that take place there, such as the use of fire for burning biomass and expanding the borders for agricultural or livestock purposes, where these uncontrolled fires destroy vegetation cover, especially grasslands, pastures and natural forests and their respective degradation, forest fires are an issue of considerable relevance in the implementation of the CO2Bio project.

Therefore, if a forest fire is generated on a property and affects the project's REDD+ conservation areas, a written record must be generated, as well as photographs and testimonies to establish the procedure to follow, the affected areas must be included and the CO2 and CH4 emissions must be estimated and included in the quantification of emissions.

In this way, different activities were implemented on the properties that are in line with the conservation activities established in the contractual contract signed with the landowners, so from the REDD+ activities, the following prevention measures are shared to avoid a forest fire disaster:

1. Disposal of biomass that can function as fuel in a fire.
2. Establishment of firewalls
3. Implementation of guardrails
4. Avoid burning during critical summer periods.

- **Floods:** Floods are an issue of environmental concern in the forest ecosystem, since they can affect ecological communities (both flora and fauna), either because they cover them or because they wash them away. The force of the water carries away part of the substrate and vegetation, as well as shallow seeds, which can affect the species' ability to resprout and therefore colonize. Another of the effects that floods can have on the environment is the dispersion of pollutants when they occur in areas where such substances are present.

However, it is important to mention that in the project area floods are periodic and very characteristic, so the negative impact on carbon stocks is reduced or null, however, such floods that may occur in areas where this risk was not foreseen, may affect the beneficiaries or those who live on the land, making access difficult or giving rise to large economic losses.

### 5.3.2. Socioeconomic Risks.

- **Land tenure disputes:** Land tenure and the exercise of forest governance is a priority issue in the implementation of the CO2Bio project, since land tenure allows social, cultural and environmental practices to be centralized, sustainable and equitable, thus regulating the way in which communities relate to each other and to their environment in general. Weak governance has adverse effects on social stability, sustainable use of the environment, investment, and economic growth.

As a prevention and mitigation plan in the first place, one of the requirements to be part of the project is compliance with legal requirements; whose main objective is to establish the legality of the properties, demonstrating the land tenure according to the provisions of CONPES 3859 of 2016, as owner (who holds the real right of the domain that appears in a real estate registration folio), possessor (who on a real estate of private nature acts with the spirit of owner with the conviction of being it, but without being able to demonstrate compliance with the requirements of the real estate tradition that legally validly accredits him as owner) or holder (who uses and enjoys a real estate property for which the existence of an owner is recognized), at least during the period of quantification of GHG reductions or removals.

The following documents demonstrate the veracity and legality of each of the participants of the project, as well as their properties, so in the documents attached to the validation process, the following information can be corroborated: citizenship card, public deed document, INCODER resolution, the certificate of tradition and freedom, the cadastral certificate, and the title study of each property with its contract of connection with the CO2Bio project.

REDD+ activities also address the issue of forest governance, where knowledge about this exercise is strengthened through training, workshops, and lectures.

- **Project stakeholder conflicts:** The main prevention measure to avoid conflict between the project stakeholders who are the Owners or beneficiaries, USAID, Cataruben Foundation and subsequent buyers of carbon certificates, is to manage the agreements, linkage contracts or alliances adhering to Colombian regulations, where they are properly socialized, understood and signed by the parties involved, so that there is full knowledge of the different stages and processes of the implementation of the CO2Bio project; what is generated outside the regulatory context, will be dealt with strictly by the legal area of each of the parties.

- **Non-ownership of project stakeholders:** The main indicator of project implementation is compliance with REDD+ activities, which are described in the linkage contracts, clarifying annexes and other legal and technical documents; therefore, any failure to comply with the commitments described therein will be dealt with as specified therein. However, another preventive measure is the monitoring of safeguards (social and environmental axis), where it is possible to have an overview of the possible leaks that may occur in the project, which allows exercising greater control in this type of project.
- **Governance Deficit:** All the properties will be characterized to determine the presence of personnel, if they have housing, and if it is in good conditions of habitability and sanitation, visits will be made to the properties and the filling out of various forms to see the progress in terms of the different levels of governance that are carried out in each property.

#### 5.4. SUSTAINABLE DEVELOPMENT GOALS MONITORING PLAN.

The CO2Bio project seeks to contribute to three Sustainable Development Goals, these are: Climate Action (13), Life of Terrestrial Ecosystems (15) and Gender Equality (5). The specific goal to which it contributes to the thirteenth goal on Climate Action is: (13.3) Improve education, awareness and human and institutional capacity for climate change mitigation, adaptation, mitigation and early warning. To this end, the CO2Bio project will carry out training and accompaniment processes with landowners to strengthen sustainable forest management, as well as training on climate change, declaration of Civil Society Nature Reserves, strengthening forest governance principles and implementing a management plan that allows for the preservation of this ecosystem. The procedure for the evaluation of this goal will be the follow-up of the attendance record to the training, the evaluation of the knowledge acquired and its subsequent implementation in the activities developed in each property.

The goal to which the CO2Bio project contributes to the fifteenth objective on Life of Terrestrial Ecosystems is: (15.1) To ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and the services they provide, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. To this end, the CO2Bio project will contribute to the declaration of Civil Society Nature Reserves (CSNR) in more than half of the participating properties, thus contributing to the protection and sustainable use of ecosystems and the ecosystem services they provide. The procedure for the evaluation of this goal will be to follow up on the issuance of the

CSNR resolutions, the preparation of management plans or property plans with the identification of ecosystem, biodiversity, socioeconomic and productive conditions, and the monitoring of compliance with conservation activities.

The CO2Bio project will contribute to the fifth objective on Gender Equality, especially to the goal: (5.5) Ensure women's full and effective participation and equal leadership opportunities at all decision-making levels in political, economic and public life. This will be carried out through meeting spaces with women owners and women members of the families, as well as their participation in workshops on strengthening project governance and training spaces to strengthen knowledge and skills on climate change mitigation, biodiversity conservation and sustainable production practices. The procedure for the evaluation of this goal will be the monitoring of the participation of the owners and other women beneficiaries, and the fulfillment of the objectives or activities of the project that are led by them.

The criteria and indicators defined for the contribution of the three Sustainable Development Goals (SDGs) are presented below:

**Table 11. Sustainable Development Goals Monitoring Plan**

Objective	Objective goal	Indicator name	Goal	Unit of Measurement	Monitoring methodology	Monitoring frequency	Responsible
(13) Climate action	(13.3) Improve education, awareness and human and institutional capacity regarding climate change mitigation, adaptation to it, reduction of its effects and early warning.	Climate change mitigation trainings	88	Trainings carried out	Visits to the land properties for training and information gathering	Annual	Social Unit
(15) Life of terrestrial ecosystems	(15.1) Ensure the conservation, restoration, and sustainable use of terrestrial ecosystems and of terrestrial and inland freshwater inland freshwater ecosystems and the services they provide, particularly in particular forests, wetlands, mountains, and arid zones, in mountains and drylands, consistent with in line with obligations under international agreements.	Civil Society Nature Reserves	60 %	Land declared as Civil Society Nature Reserves	Obtaining resolutions that approve the declaration	Annual	Social Unit and Biodiversity Unit

(5) Gender equality	(5.5) Ensure women's full and effective participation and equal opportunities for leadership at all decision-making levels in political, economic, and public life.	Women's participation in decision making	44	Women beneficiaries of the project participating in decision making spaces.	Creation of spaces and participation activities about the project with women beneficiaries.	Every 2 years	Social Unit
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Source: Cataruben Foundation

## 5.5. PROJECT EMISSIONS MONITORING

Monitoring of project emissions is performed periodically according to the monitoring report analysis periods, updating activity data and emission factors, based on the monitoring of project boundaries, both for deforestation and degradation, following the parameters and guidelines of Proclima's REDD methodology in its most updated version, for the following parameters.

### 5.5.1. Data Activity

- Annual deforestation in the project area

$$CSB_{f, \text{year}} = \frac{1}{(t2 - t1)} \times (AREDD + \text{proy}, 1 - AREDD + \text{proy}, 2)$$

- Annual deforestation in the leakage area

$$CSB_{f, \text{year}} = \frac{1}{(t2 - t1)} \times (Y_{f,1} - Y_{f,2})$$

- Annual degradation in the project area

$$DFPREDD + \text{proy}, \text{year} = \frac{1}{(t2 - t1)} \times (Anúcleo - Anúcleo - \text{parche})$$

$$DFSREDD + \text{proy}, \text{year} = \frac{1}{(t2 - t1)} \times (Aperforado - Aperforado - \text{parche})$$

- Annual degradation in the leakage area

$$DFP_{f, \text{year}} = \frac{1}{(t2 - t1)} \times (Anúcleo, f - Anúcleo - \text{parche}, f)$$

$$DFS_{f, \text{year}} = \frac{1}{(t2 - t1)} \times (Aperforado, f - Aperforado - \text{parche}, f)$$

### 5.5.2. GHG emissions during the monitoring period

- **Deforestation in the project and the leakage area**

$$EAREDD+proy,year = DEFREDD+proy,year \times TCO2eq$$

$$EAf,year = (DEFf,year \times TCO2eq) - EAlb,f,year$$

- **Degradation in the project area and leakage area.**

$$EAREDD+proy,year = (DFPREDD+proy,year \times DTBCO2eq,1) + (DFSREDD+proy,year \times DTBCO2eq,2)$$

$$EAf,year = (DFPf,year \times DTBCO2eq,1) + (DFSf,year \times DTBCO2eq,2)$$

### 5.5.3. Quantification of the project's emission reductions

- **Deforestation**

$$REDEF,REDD+proy = (t2 - t1) \times (EADEF,lb,year - EADEF,REDD+proy,year - EADEF,f,year)$$

- **Degradation**

$$REDEG,REDD+proy = (t2 - t1) \times (EADEG,lb,year - EADEG,REDD+project,year - EADEG,f,year)$$

## 6. MONITORING REPORT

The monitoring and results of the project are presented below, as follows:

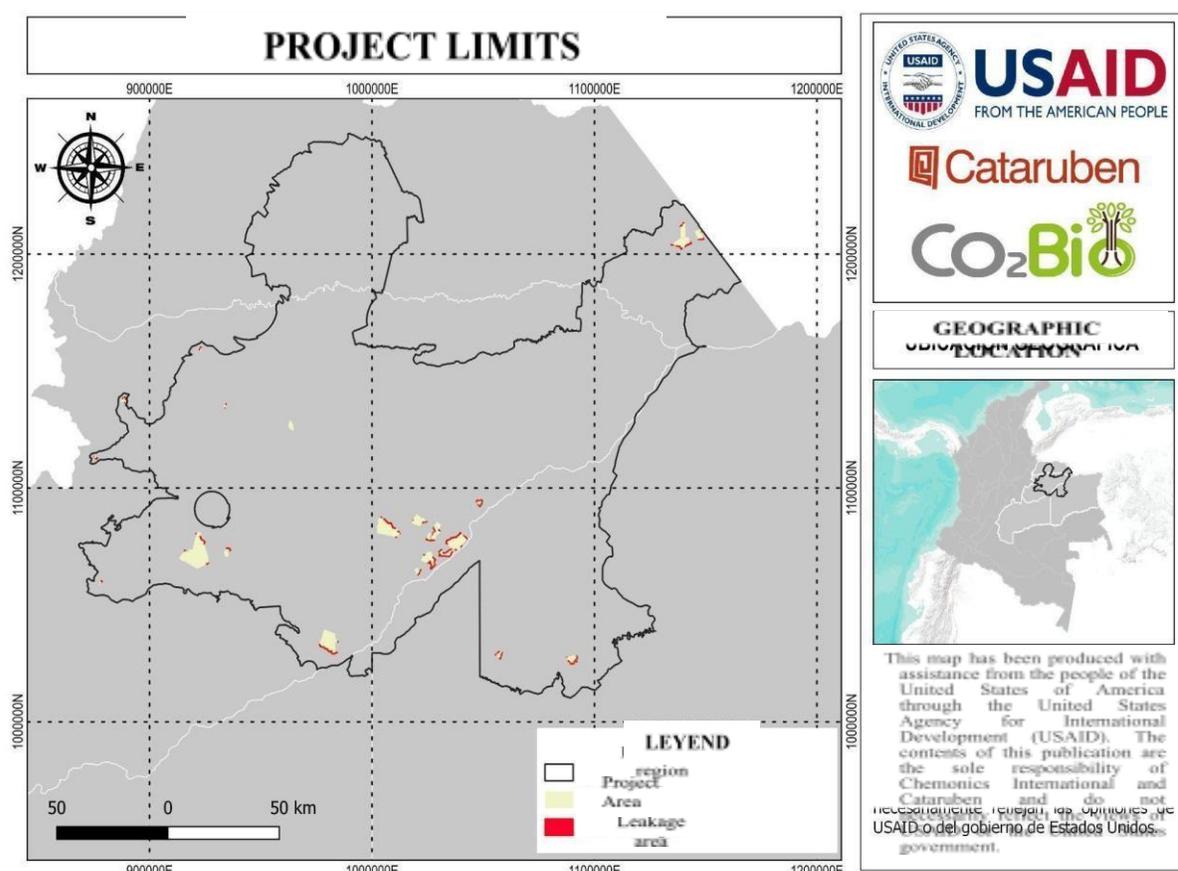
1. Monitoring of the project limits in the period from January 1, 2020, to December 31, 2020 (1 year).
2. Monitoring of project activities in the period from January 1, 2020, to December 31, 2020. (1 year)
3. Monitoring of REDD+ safeguards period 2015-2020. (6 years)

4. Permanency monitoring for the period January 1, 2020, to December 31, 2020. (1 year)
5. Emission reductions from avoided deforestation in the period from January 1, 2020, to December 31, 2020. (1 year)
6. Emission reductions due to avoided degradation in the period 2015-2020 (6 years).

## **6.1. PROJECT BOUNDARY MONITORING**

### **6.1.1 Reference Region, Project Areas, Leakage Belt**

- The spatial boundaries of the reference region remained stable during the monitoring period (see Figure 2).
- Between 2019 and 2020, there were no land disposals, which is why the project areas remained stable (See Figure 2).
- For the 2019 - 2020 monitoring period, the updated leakage belt (areas of forest present in a buffer 100 m around the properties) was managed (see Figure 2).



**Figure. 2. Project Boundary Map**

Source: Cataruben Foundation

**6.1.2. Eligible areas**

As eligible areas for the monitoring period (see Figure 3), there is a total of 8871.3 hectares of forest as shown in Table 12. Regarding the change in forest area (CSBproy), a deforestation of 17 hectares is reported.

**Table 12. Eligible Areas**

Eligibility	Area (ha)	Percentage (%)
Eligible	8871,3	21%
No Eligible	33.534,7	79%
<b>Total</b>	<b>42.406,00</b>	<b>100,00</b>

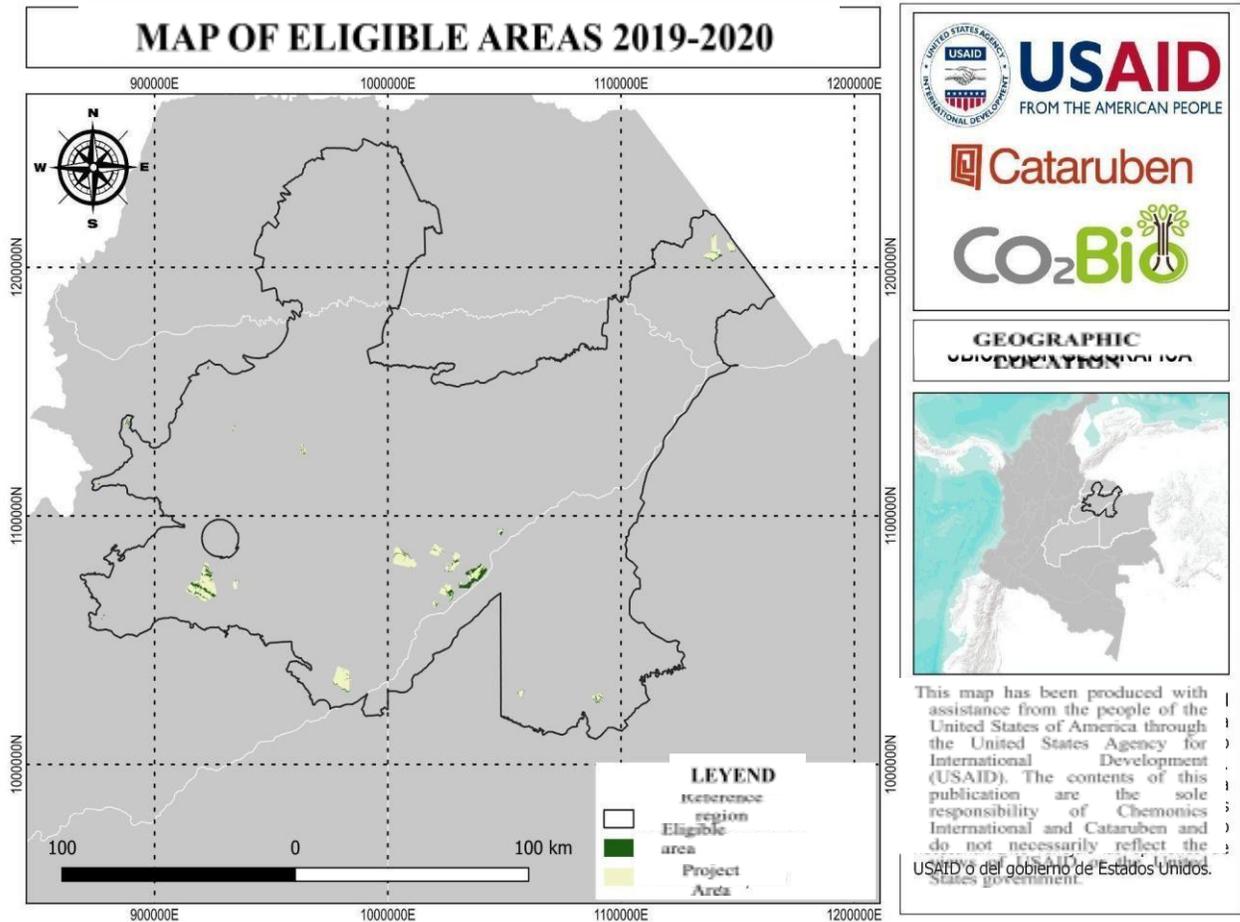


Figure. 3. Eligible areas 2020

Source: Cataruben Foundation

## 6.2. MONITORING THE IMPLEMENTATION OF REDD+ ACTIVITIES

Compliance with REDD+ activities in the second verification period have has a positive balance as in the first year of verification. The landowners are motivated, as they have already gone through the process of selling carbon certificates, so they have actively participated in the different actions proposed to promote the removal of emissions from deforestation and degradation, including compliance with conservation and mitigation activities.

The following is a progress report on the achievement of the proposed goals for the project's verification time window, including the support for each deliverable (see Annex Monitoring of REDD+ activities).

### 6.2.1. Conservation and Mitigation Activities

Below are the activities that the landowners have carried out gradually according to the duration of the contract, which ensure the conservation of the forest areas and their associated biodiversity, as well as the mitigation of deforestation. There are 16 activities that include conservation, natural regeneration, forest governance, and biodiversity monitoring. Table 13 shows the 16 conservation and mitigation activities and their compliance in the 44 properties that are part of the project.

*Table 13. Conservation and mitigation activities*

ACTIVITY CODE	CONSERVATION AND MITIGATION ACTIVITIES	LAND PROPERTIES WITH IMPLEMENTATION		% OF ACTIVITY COMPLIANCE
		YES	NO	
1	Constant presence of personnel on the property in order to guarantee the care and protection of the area agreed upon in the project.	44	0	100%
2	Avoid indiscriminate logging, wildlife hunting and ensure that protected and/or private areas are marked with signs.	39	5	89%
3	Guarantee the conservation of the forest area registered in the CO2BIO project during the duration of this contract.	44	0	100%
4	To favor the enrichment of the forest by generating ideal conditions for the growth of the seedling bank in the understory.	44	0	100%
5	To promote the elimination of invasive or high-density and highly competitive species populations that are identified over time.	39	5	89%
6	Replenish the forest individuals removed or harvested.	44	0	100%
7	Establish barriers to reduce edge effects.	37	7	84%
8	Guarantee the minimum intervention of the forest, allowing an adequate management for the increase, enrichment, conservation, and sustainable use of the ecosystem and the connections of biological corridors.	44	0	100%
9	Do not commercialize timber from the forest on the property, only harvesting for domestic use.	44	0	100%
10	Preserve the protective vegetation of water sources.	44	0	100%
11	Make adequate and efficient use of groundwater and surface water sources.	44	0	100%
12	Take the necessary precautions when using agrochemicals in the productive activities of your property and avoid their use in nearby areas or directly in the water courses of water bodies, rivers, streams, or ponds.	0	0	0%

13	In critical seasons, monitor and control fires and burns in order to avoid greenhouse gas emissions that increase global warming, since this practice deteriorates the topsoil, makes the soil susceptible to erosion and destroys the microorganisms found in the soil.	44	0	100%
14	Create fire control lines by means of fire strips or firebreaks, and remove dead wood, as this prevents the fire from spreading due to the lack of fuel.	44	0	100%
15	Proper use and disposal of solid waste.	7	37	16%
16	Report the presence of fauna and flora species with the PROJECT OWNER, in order to register and update the inventory.	44	0	100%
<b>TOTAL PERCENTAGE OF COMPLIANCE OF THE ACTIVITIES</b>				<b>86%</b>

*Source: Cataruben Foundation*

Of the 16 proposed activities, 11 activities were implemented in the 44 farms, 2 activities in 39 farms, 1 activity in 37 farms and 1 activity in 7 farms. The activity with the least implementation in the farms is #15, which corresponds to solid waste management.

\ On the other hand, four (4) specific NON-compliance events can be identified for the conservation and mitigation activities established within the project:

- In the commitment to prevent indiscriminate logging, wildlife hunting and ensure the signage of protected and/or private areas, 5 of the 44 properties do not specifically comply with the signage of protected areas. Hunting by third parties and/or outsiders outside of the identified properties and project participants has also been identified. There are cases of intent to extract timber for commercial purposes by outsiders. The aforementioned events are a direct consequence of the lack of signage for protected or private areas.
- Regarding the activity of promoting the elimination of populations of invasive species or high density and very competitive species that are identified over time, 5 of the 44 farms surveyed stated that they were unable to comply with the item due to lack of knowledge and identification of invasive plants, since in some farms their presence is so significant that they go unnoticed in the eyes of the owners, managers and day laborers.
- 7 of the 44 land properties surveyed do not establish barriers to reduce the edge effect due to the length of the edges to be covered. For this reason, the savanna and forest ecosystems are protected with the removal of the present livestock activity and the governance of the properties, thus facilitating natural restoration, and decreasing the edge effect over the years due to inactivity.

- 37 of the surveyed properties do not properly use and dispose of solid waste as established in item 15 of the agreements established by the project and the owners. The main reason for non-compliance is based on ignorance of Resolution 2184 - 2019 of the Ministry of Environment in Article 4.
- For activity number 12, it is reported that no farm complies with taking the necessary precautions when using agrochemicals in the productive activities of their property and avoiding their use in nearby areas or directly in the water courses of bodies of water, rivers, streams or ponds, taking into account that this activity does NOT apply in any of the properties, taking into account that the 44 properties that are part of the project do not use agrochemicals, since their main activity is cattle raising, this can be verified in the attached document RECORD OF COMPLIANCE WITH CONSERVATION ACTIVITIES BY PROPERTY.

### 6.3. MONITORING OF REDD+ SAFEGUARDS 2015 to 2020

The monitoring report was conducted for the years 2015 to 2020, taking into account that the previous report had not taken into account the safeguards item. For compliance with the safeguards, some indicators were selected as shown in the following reporting tables:

**Table 14.** Activities carried out to comply with indicator 1.1

ID Safeguard	Correspondence with national legislation.
ID Indicator	1.1
Indicator name	Declaration and Strengthening of Civil Society Nature Reserves (CSNR)
Type	Contribute to and be consistent with national objectives
Goal	60% of the declared and strengthened properties
Unit of measure	Percentage of land declared or in process of being declared as CSNR.
Monitoring methodology	Obtaining resolutions that approve the declaration
Monitoring frequency	Annual
Responsible for measurement	Social Unit

Indicators result in the reporting period	68% of the land properties
Documents to support the information	Annex: MONITORING OF SAFEGUARDS - 1.1 Safeguarding: Nature Reserves
Observations	The Cataruben Foundation in the framework of the CO2Bio project, as a CSNR articulating organization and based on the work with other articulating organizations, has worked hand in hand with the owners of the properties in the project area for the declaration and strengthening of Civil Society Nature Reserves. Of the 44 properties in the CO2Bio project, 19 have been declared as CSNRs and 7 have been approved to initiate the registration process, for a total of 26, corresponding to 68% of the properties. During the development of the project, the owners of the properties have taken the initiative to conserve their ecosystems and traditions through this form of land planning and management in the Orinoco region; once these properties have been declared CSNRs, they must carry out a process of creation and implementation of land or management plans, through which the CO2Bio project will strengthen the objectives of the CSNRs.

Source: Cataruben Foundation

**Table 15. Activities carried out to comply with indicator 2.1**

ID Safeguard	Transparency and access to information
ID Indicator	2.1
Indicator name	Registration and updating in the RENARE platform
Type	Contribute to guaranteeing the right to information.
Goal	33
Unit of measure	Annual update
Monitoring methodology	Review in the RENARE platform of the activities carried out
Monitoring frequency	Annual
Responsible for measurement	Project Manager
Indicators result in the reporting period	1 Registration in RENARE, status in "formulation".

Documents to support the information	Annex: SAFEGUARD MONITORING - 2.1 Safeguards: Transparency and free information on the platform
Observations	The registration process in the RENARE platform is the first step in the publication and access to project information, and this year the project will also be updated to "Implementation" status.

Source: Cataruben Foundation

**Table 16.** Activities carried out to comply with indicator 3.1

Safeguard ID	Accountability
Indicator ID	3.1
Indicator Name	Biodiversity and Carbon Credits Forum
Type	Strengthen transparency in the development of the project.
Goal	33
Unit of measurement	Number of forums held
Monitoring methodology	Registration of attendees and forum report
Monitoring frequency	Annual
Responsible for measurement	Relationship area
Result of the indicator in the reporting period	1
Documents to support the information	Annex SAFEGUARD MONITORING - 3.1 Safeguarding: Accountability (Attendance at events, protocols and photographs) view : <a href="https://www.youtube.com/watch?v=hdbcw4E24gs">https://www.youtube.com/watch?v=hdbcw4E24gs</a>
Observations	This forum was held in the first half of 2020 and was held in person. In which the progress of the project's objectives was presented, the allies presented their opinions, as well as the interested parties.

Source: Cataruben Foundation

**Table 17.** Activities carried out to comply with indicator 4.1.

Safeguard ID	Recognition and strengthening of forest governance structures
Indicator ID	4.1

Indicator Name	Recognition and strengthening of forest governance at land property level
Type	Identify the degree of implementation of activities that ensure governance
Goal	44
Unit of measurement	Number of characterizations performed
Monitoring methodology	Visits to land properties and collection of information
Monitoring frequency	Annual
Responsible for measurement	Social Unit
Result of the indicator in the reporting period	44
Documents to support the information	Annex SAFEGUARDING MONITORING - 4.1: Governance (Photographic record and logs).
Observations	The visits to the land properties revealed the different activities that the landowners have implemented over the years, which have resulted in different degrees of forest governance.

*Source: Cataruben Foundation*

**Table 18.** Activities carried out for the fulfillment of indicator 5.1

Safeguard ID	Capacity building
Indicator ID	5.1
Indicator name	Capacity building
Type	Strengthen technical and legal skills in project-related issues.
Goal	88 people trained per year
Unit of measurement	Trained people on the land properties
Monitoring methodology	Registration of trained people
Monitoring frequency	Annual
Responsible for measurement	Social Unit
Indicators result in the reporting period	95
Documents to support the information	Annex SAFEGUARD MONITORING - 5.1 Safeguarding:

	Capabilities (Attendance record and training description).
Observations	Training on climate change, biodiversity conservation and sustainable productive practices in ecosystems was provided to 95 people, surpassing the established goal.

Source: Cataruben Foundation

**Table 19. Activities carried out to comply with indicator 7.1.**

Safeguard ID	Respect for traditional knowledge
Indicator ID	7.1
Indicator name	Diagnosis of households and tradition of beneficiaries
Type	Integrating traditional knowledge into the implementation of REDD+ activities
Goal	44
Unit of measurement	Land Properties with characterized households, traditions, and context
Monitoring methodology	Surveys and processing of results
Monitoring frequency	Every 2 years
Responsible for measurement	Social Unit
Indicators result in the reporting period	44
Documents to support the information	Annex MONITORING OF SAFEGUARDING - 7.1: Traditional knowledge (battery of indicators)
Observations	The characterization was carried out through the collection of information from the owners and their families in formats designed for this purpose. After the information was organized and analyzed, it was recorded in a set of indicators.

Source: Cataruben Foundation

**Table 20. Activities carried out for the fulfillment of indicator 8.1**

Safeguard ID	Profit sharing
Indicator ID	8.1
Indicator name	Farms with higher economic benefits resulting from conservation

Type	Contribute to making the project sustainable for the owners and their families.
Goal	44
Unit of measurement	Families benefiting from higher incomes
Monitoring methodology	Carbon certificates traded per property
Monitoring frequency	Every 5 years
Responsible for measurement	Project Manager
Indicators result in the reporting period	Not applicable for this report
Documents to support the information	Not applicable
Observations	The results will be reported in the next monitoring period, since the current monitoring period does not yet reflect the economic benefits from the sale of carbon certificates.

*Source: Cataruben Foundation*

*Table 21. Activities carried out to comply with indicator 9.1*

ID Safeguard	Territorial rights
Indicator ID	9.1
Indicator name	Characterization and strengthening of land-use planning
Type	Contribute to guaranteeing the land rights of landowners.
Goal	44
Unit of measurement	Land Properties with plans or property files completed and updated
Monitoring methodology	Elaboration and updating of property plans
Monitoring frequency	Every 5 years
Responsible for measurement	Social Unit
Indicators result in the reporting period	44 property files or plans
Documents to support the information	Annex MONITORING OF SAFEGUARDS - 9.1 Safeguarding: Territorial (Management plans for each property).

Observations	Forty-four property cards or property plans were created, using surveys and the design of maps through the social mapping methodology, which were developed together with the
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Source: Cataruben Foundation

Table 22. Activities carried out to comply with indicator 10.1

Safeguard ID	Participation
Indicator ID	10.1
Indicator name	Beneficiaries with full and effective project information throughout the project
Type	Ensuring full and informed participation of owners
Goal	44
Unit of measure	Direct beneficiaries with full information on the stages of the project
Monitoring methodology	Signing of the binding and update contracts by the two parties
Monitoring frequency	Every 12 years
Responsible for measurement	Property and documentary unit
Indicators result in the reporting period	44
Documents to support the information	Annex: SAFEGUARD MONITORING - 10.1 Safeguards: Participation (Contracts, letters of intent and legal documents).
Observations	The landowners showed their interest in participating in the CO2Bio project by submitting a letter of intent that, following due process, resulted in the signing of a contract, which guarantees full and voluntary participation and a contractual relationship between the landowner and the Cataruben Foundation for the fulfillment of conservation activities and the contribution to the reduction of emissions from deforestation and degradation.

Source: Cataruben Foundation

Table 23. Actions taken to comply with indicator 11.1.

Safeguard ID	11. Forest conservation and biodiversity
Indicator ID	11.1
Indicator name	Participatory monitoring strategy for focal species, High Conservation Values, and threats to biodiversity.
Type	Conservation of the biodiversity of forest areas and biological diversity.
Goal	20
Unit of measurement	Monitoring stages carried out.
Monitoring methodology	Implementation and follow-up of the development of the executed stages of the participatory monitoring strategy.
Monitoring frequency	Every 2 years
Responsible for measurement	Cataruben Foundation
Indicator result in the reporting period	2 executed stages
Documents to support the information	Annex - SAFEGUARD MONITORING - 11.1 and 12.1 Safeguard: Conservation and Services (Environmental Safeguards Monitoring Progress Report).
Observations	To date, two monitoring stages have been carried out, corresponding to: biodiversity baseline, identification of threatened species that can be used as focal points and HCVs, as well as a first analysis of threats to biodiversity. This information is detailed in Annex 11.1.

*Source: Cataruben Foundation*

*Table 24. Activities carried out to comply with indicator 12.1.*

Safeguard ID	12. Provision of environmental or ecosystem goods and services.
Indicator ID	12. 1
Indicator name	Ecosystem integrity assessed for forest structure and composition
Type	Mapping the ecosystem integrity of the project's forests.
Goal	7 analyses over 35 years of the project.

Unit of measurement	Analyses performed
Monitoring methodology	Quantification of the forest by remote sensing and generation of main activities that generate pressures. Cross-referencing of information from the methodology of (Grantham, H.S., Duncan, A., Evanst, T.D, et al.,2020) Anthropogenic modification of forests means only 40% of remaining forests have high ecosystem integrity.
Monitoring frequency	Every 5 years
Responsible for measurement	Cataruben Foundation
Indicators result in the reporting period	1 analysis performed.
Documents to support the information	Annex: SAFEGUARD MONITORING - Annex 11.1 and 12.1 Safeguard: Conservation and Services (Environmental Safeguards Monitoring Progress Report)
Observations	The results of the estimation of the forest structure and composition indices are detailed in Annex 11.1 and 12.1

*Source: Cataruben Foundation*

*Table 25. Activities carried out to comply with indicator 13.1.*

Safeguard ID	Environmental and territorial planning
Indicator ID	13.1
Indicator name	Linking and strengthening protected area management mechanisms.
Type	Contribute to regional environmental management
Goal	5
Unit of measurement	Land management and planning instruments related to REDD+ activities being implemented.
Monitoring methodology	Relationship between the Regional Environmental Plan, PRICCO, the Regional System of Protected Areas (RSPA) of the Orinoco and the REDD+ activities of the project.
Monitoring frequency	Annual
Responsible for measurement	Social Unit
Indicators result in the reporting period	3

Documents to support the information	Annex: SAFEGUARD MONITORING - 13.1 Safeguarding: Management (RSPA Minutes and Documents)
Observations	Section 4.1.14 of this document relates the project objectives to the Regional Environmental Plan 2013-2025 and the Regional Comprehensive Climate Change Plan for the Orinoquia. In addition, the Cataruben Foundation is participating in the Regional System of Protected Areas (RSPA) of the Orinoco, which integrates the Natural Reserves of the Civil Society of the region and has an impact on actions to improve the conservation of forests and ecosystems of the properties in this municipality that are also part of the CO2Bio project.

*Source: Cataruben Foundation*

*Table 26. Activities carried out to comply with indicator 14.1.*

Safeguard ID	Sectoral planning
Indicator ID	14.1
Indicator name	Consistency with environmental planning and management legislation
Type	Contribute to environmental and forest management
Goal	44
Unit of measurement	Creation and monitoring of compliance with the 2015-2054 Management Plan: forest areas under the REDD+ strategy.
Monitoring methodology	Follow-up on compliance with the Management Plan
Monitoring frequency	Every 5 years
Responsible for measurement	Social Unit
Indicator result in the reporting period	44
Documents to support the information	Annex SAFEGUARD MONITORING - 14.1 Safeguarding: Planning.

Observations	The 2015 - 2054 Management Plan was prepared in order to determine the conservation activities in the forest areas of the properties, for this purpose visits were made and the Management Plan sheets will be monitored over the years. This also established the governance and conservation activities that the owners are committed to implement in the short, medium and long term; for this monitoring period, compliance with this sheet was followed up.
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*Source: Cataruben Foundation*

*Table 27. Activities carried out to comply with indicator 15.1*

ID Safeguard	Forestry control and monitoring to prevent emissions displacement
ID Indicator	15.1
Indicator name	Emission leakage control
Type	Decrease the possible displacement of emissions due to the displacement of the causes and agents of land use change.
Goal	33
Unit of measure	Deforestation rate of the leakage area
Monitoring methodology	Spatial analysis
Monitoring frequency	Annual
Responsible for measurement	GIS Unit
Indicators result in the reporting period	1
Documents to support the information	Annex MONITORING OF SAFEGUARDS - 15.1 Safeguarding: Forest surveillance
Observations	Determination of the deforestation rate of the leakage area based on the Proclima technical document Quantification of GHG Emission Reductions from REDD+ Projects, Version 2.2 of February 5, 2021.

*Source: Cataruben Foundation*

## 6.4. MONITORING THE PERMANENCE OF THE REDD+ PROJECT

The non-permanence assessment is a tool whose essential objective is to analyze the risk of a project against biophysical and socioeconomic risks, to determine the impact on project development, which may be reflected in the number of credits that a project must deposit in the reserve.

The following is the Permanence Evaluation for the CO2Bio project, where the indicators and reporting procedures for the project and the respective result are evidenced.

Table 28. Permanence of the CO2Bio Project

ITEM	RISK	MITIGATION MEASURE	INDICATOR	PROCEDURE	INDICATOR RESULT	OBSERVATIONS
1	Biophysical	Fire	# of fires found in the eligible project area.	Fire monitoring is carried out with the help of the "Global Forest Watch" platform, which allows us to upload data from the project areas and create alerts for fire detection using VIIRS (Visible Infrared Imaging Radiometer Suite) technology. In addition to satellite monitoring, the impact of the fires was corroborated by field visits.	0	During the monitoring period there were fires in the project areas, however, these did not affect the eligible forest areas (see Figure 5).
2		Floods	# of unusual flooding reports	Constant communication is maintained with the owners; in the event of flooding with major impacts, a report will be made by filling out a form, in order to proceed with the measures to be taken.	1	In this report, flooding occurred in the Macarena property located in the municipality of Paz de Ariporo.

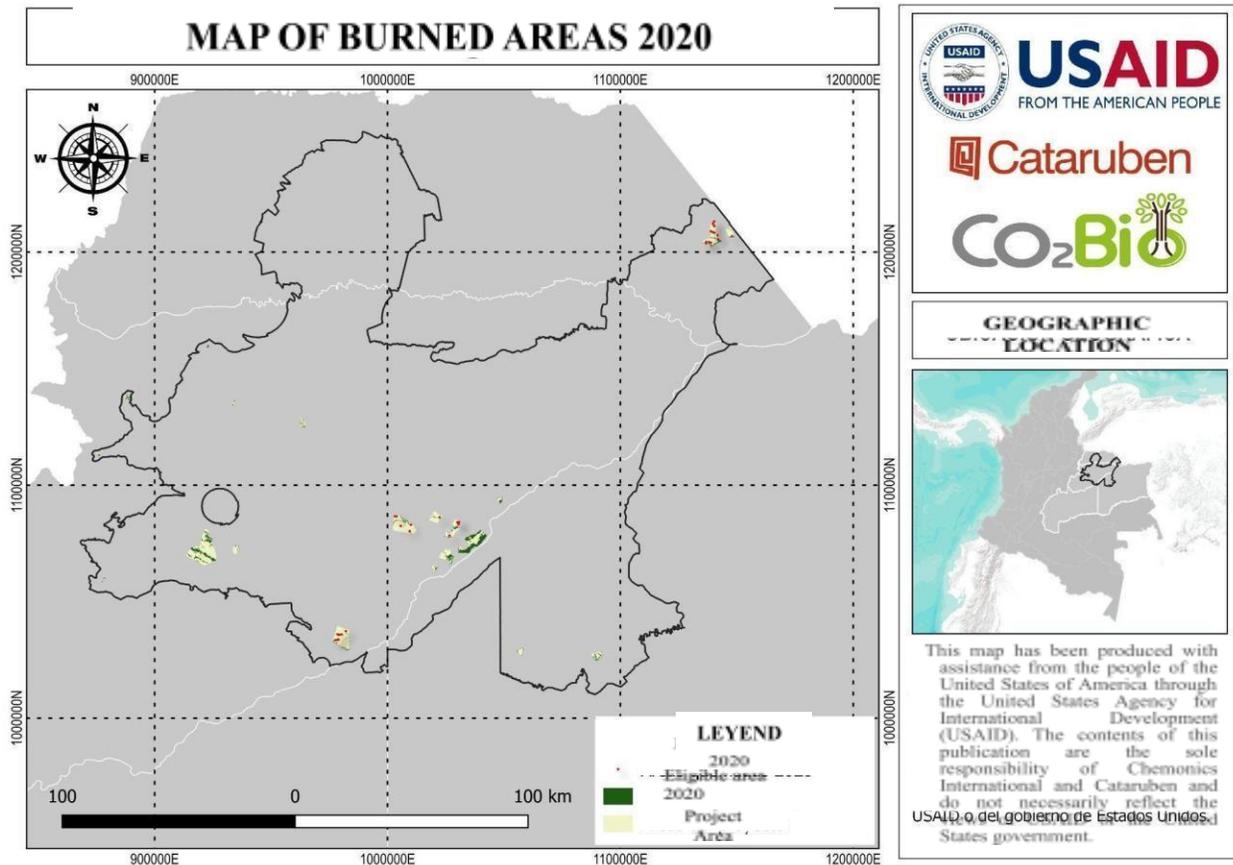
3	Socioeconomic	Land tenure disputes	# of properties with land ownership or tenure	The following documents are verified: citizenship card, public deed document, INCODER resolution, the certificate of tradition and freedom, the cadastral certificate and the title study of each property with its contract of connection with the CO2Bio project.	11	No land tenure disputes were reported in this report, and it is important to note that none of the properties changed ownership or sold part of their land to third parties.
4		Conflict with project stakeholders	# of conflicts between the different parties involved	Procedure for the management of PCCS	0	During the current monitoring period, there were no conflicts between any of the parties; the foundation manages the PCCS management procedure.
5		Non-appropriation of project activities	# of safeguards monitoring and REDD+ activities	Monitoring of safeguards (social and environmental) and REDD+ activities is carried out in compliance with the contract signed by the landowners.	15	The 15 safeguards and REDD+ activities were monitored according to the indicators previously established in the monitoring process.

6		Governance deficit	# of acknowledgements of forest governance structures	Follow-up on the indicator of safeguard #4, which establishes the indicators to determine the level of implementation of governance in the properties.	1	Follow-up was carried out through visits to the properties, together with evidence such as photos, personnel contracts, housing on the property and other evidence that could justify the management of governance over the years.
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*Source: Cataruben Foundation*

#### 6.4.1. Biophysical Risks

- **Fires:** For the monitoring period corresponding to the year 2020, there were no fires in the conservation area aimed at reducing deforestation and degradation (see Figure 5 and Annex S.I.G.).



**Figure. 4. Map of burned areas**

Source: Cataruben Foundation

Table 29. Land Properties with fire presence.

Property name	Date of occurrence
Buena vista 1	2020/09/29
Buena vista 2	2020/10/01
Charanga 1	2020/12/20
El Valle	2020/12/29
La Calzada	2020/01/18
La Guajira	2020/02/16
Las Palmeras	2020/03/01
Limal	2020/01/14

<b>Los Toros</b>	2020/01/02
<b>Los Murrucos</b>	2020/01/12
<b>San Andrés</b>	2020/04/29
<b>Sarrapios</b>	2020/09/26

*Source: Cataruben Foundation*

- **Flooding:** For this monitoring period, flooding occurred in the La Macarena property located in the municipality of Paz de Ariporo, said process occurred in the framework of the closing of the rainy season in the municipality, which brought with it the overflowing of the Ariporo River, which crosses the northeastern boundary of the property, however, this phenomenon did not have major economic impacts or affectations that gave rise to the permanence of the owners or forest areas in the project.

#### **6.4.2. Socioeconomic Risks.**

- 1.1 **Land tenure disputes:** REDD+ activities also address the issue of forest governance, where knowledge about this exercise is strengthened through training, workshops, and lectures.
- 2.1 **Conflicts between project stakeholders:** For the present monitoring period there were no conflicts between any of the parties, from the foundation manages the PCCS management procedure that aims to provide timely attention to stakeholders, through the receipt and processing of requests, complaints, claims and acknowledgements (PCCS) that are directed to the Cataruben Foundation, through different means of communication, in an open, fluid and effective manner in relation to the activities and operations of the Foundation, preventing and/or mitigating possible social conflicts, false expectations that hinder the different processes and ensuring citizen participation.
- 3.1 **Non-ownership of project stakeholders:** This risk was monitored based on the follow-up of the 15 safeguards and REDD+ activities within the framework of the project, where it was possible to identify the implementation of multiple activities by the landowners, which have been developed hand in hand with the Cataruben Foundation or other non-profit organizations whose main objective is the conservation and restoration of the Orinoquia's ecosystem.
- 4.1 **Governance Deficit:** For the current monitoring period, it was identified that in all the properties there is a presence of personnel for the development of the different tasks of plain work, at the same time in most of the properties there is an inhabited

house in good sanitary conditions, sustainable livestock practices are developed and constant monitoring of fauna, which when these activities are combined allow identifying that the deficit for governance in the project areas is almost null.

## 6.5. MONITORING THE SUSTAINABLE DEVELOPMENT GOALS

The monitoring report was conducted for the years from 2015 to 2020, taking into account that the previous report had not reported the monitoring of the contribution to the Sustainable Development Goals (SDGs) targets. For this report, the indicators shown in the following table were selected:

Table 30. Sustainable Development Goals

Objetivo	Objective goal	Indicator name	Goal	Unit of Measurement	Monitoring methodology	Monitoring frequency	Responsible	Indicators result in the reporting period	Supporting document
(13) Climate action	(13.3) Improve education, awareness and human and institutional capacity for climate change mitigation, adaptation, mitigation and early warning.	Training on climate change mitigation	88	Trainings conducted	Visits to the land properties for training and information gathering	Annual	Social Unit	79	Annex. MONITORING OF SDGs - Climate Action (13)
(15) Life of terrestrial ecosystems	(15.1) Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and the services they provide, in particular forests, wetlands, mountains and drylands, consistent with obligations under international agreements.	Natural Reserves of Civil Society	60 %	Land declared as Civil Society Nature Reserves	Obtaining resolutions that approve the declaration	Annual	Social and Biodiversity Unit	68%	Annex. MONITORING OF SDGs - Life of terrestrial ecosystems (15)
(5) Gender equality	(5.5) Ensure women's full and effective participation and equal opportunities for leadership at all decision-making levels in political, economic and public life.	Women's participation in decision making	44	Women beneficiaries of the project participating in decision making spaces	Generation of spaces and activities for participation about the project with the beneficiary women	Every 2 years	Social Unit	18	Annex. MONITORING OF SDGs - Gender Equality (5)

Source: Cataruben Foundation



## 6.6. PROJECT EMISSIONS MONITORING

The monitoring of the project's emissions was carried out in accordance with the methodology established in numeral 14.5. The calculations can be found in the annexes folder (ANNEX CO2Bio PROJECT CALCULATIONS), in the Excel workbook "2. Calculations\_LB\_Monitoring\_2020\_v2" sheet 4 Monitoring\_2020 and sheet 5 Summary\_Monitoring\_2020. Table 31 shows the avoided deforestation reductions for the period 2019-2020 and avoided degradation reductions for the period 2015-2020.

Table 31. Emission Reductions 2020 Monitoring Period

EMISSIONS REDUCTION MONITORING PERIOD 2020			
YEAR	REDEF,REDD+proj (tCO2e)	REDEG,REDD+proj (tCO2e)	RE Total year
2.015	0	7.593	7.593
2.016	0	7.528	7.528
2.017	0	7.464	7.464
2.018	0	7.400	7.400
2.019	0	7.337	7.337
2.020	17.208	7.274	24.482
<b>Totals</b>	<b>17.208</b>	<b>44.594</b>	<b>61.802</b>

Source: Cataruben Foundation

## 7.ADDITIONAL

Considering that initially the project was validated under the methodological section number 11 of the AFOLU SECTOR METHODOLOGICAL DOCUMENT v 2.1 of Proclima, it is updated to its latest version 2.2 where it was identified that the project is additional.

As suggested by this entity, the work team had to select the most appropriate among the criteria, justifying the convenience of its choice and taking into account the suggestion made by Proclima itself, paragraph (c) was taken into account, which mentions the changes in carbon stocks in the limits of the project, identifying the most probable land use at the beginning of the project.

The steps followed were those suggested by the methodology:

### 7.1 STEP 0. REDD+ PROJECT START DATE

The date on which the activities that translate into effective GHG emission reductions and/or removals began was January 1, 2015.

The start date of the project was established on January 1, 2015, taking into account that by that date the Cataruben Foundation formalized contracts with professionals who would carry out the initial phases of implementation of conservation actions, marking the beginning of compliance with the established goals. This shows that the start date of the project is within the 5 years prior to the start of the validation.

## **7.2 STEP 1. IDENTIFICATION OF LAND USE ALTERNATIVES**

In this step, the most likely land use scenarios, which could be the baseline scenario, were identified through the following sub-steps:

### **7.2.1. Sub-step 1a. Identification of likely land use alternatives in CO2BIO project areas**

Based on historical trends with respect to land use and occupation in the region where the CO2BIO project is located, three credible and realistic scenarios have been identified that are considered likely to occur in the absence of the associated activities.

- Continuation of the previous land use: This alternative is the continuation of the expansion and/or opening of the agricultural frontier, which leads to the change of land use to implement palm, cocoa, and pasture crops with introduced species of livestock supply. These activities were widely introduced in the past in the reference region and in the project area. Encouraged by the establishment in the project area of industrial plants that transform these raw materials (palm oil extractors, refrigerators). And given the definition of the agricultural frontier in the project area, agricultural projects (rice, palm), agroforestry (cocoa, coffee), forestry and livestock could be developed. With the possible implementation of these projects come activities that alter the carbon balance, such as the removal of soil cover by excessive plowing, the burning of native pastures, the excessive use of agrochemicals and chemical synthesis fertilizers, and soil correctives such as whitewashed
- REDD+ projects without certification of emission reductions: This alternative could happen in the project area given that it has been of national interest, for example, the Ministry of Environment and Sustainable Development (MESD) is promoting the National REDD+ Strategy and could eventually increase the annual budget allocated to the Regional Autonomous Corporations (RACs). In addition, through the Royalties Fund, departments are accessing resources for research on sustainable production systems, smart agriculture, etc., which could have an impact on forest conservation.
- Projects of this type without certification of emission reductions have been executed by territorial units such as governors' and mayors' offices that opt for Payment for Environmental Services and other conservation incentives for land in aqueduct supply sources with 1% of the unrestricted resources of these public institutions. Or for projects executed by public or private habitat bank

institutions under the payment for results scheme or payments for environmental services as a mechanism to implement obligations derived from environmental compensations and the non-forced investment of 1%.

- Other land use alternatives, common land use practices: leasing for mechanized rice crops. The implementation of mechanized rice cultivation is a common and expanding practice in the project region, it is a short-cycle and nomadic crop that in the last decade has been advancing in the Orinoquia territory with significant impacts on land use change, change of natural cover, degradation, and deforestation with impacts on water, forest and wetlands.

It is characterized as a nomadic crop since it mechanizes, slashes, burns, degrades and then rotates to another farm. Mechanized rice cultivation first completely lifts the wetland and grassland cover until it reaches the forest or edges; it mechanizes the trees and stubble (slashing). Then, fire clears all plots of woody vegetation (burning) before planting crops. After the soil is exhausted during one or more crop cycles, the farmer moves on to another plot of land that has not been previously worked.

The Plan for the Productive Management of Rice in Colombia 2020- 2038, adopted by the Ministry of Agriculture and Rural Development, establishes that 45% of the country's annual rice production comes from the Eastern Plains (part of the Orinoquia). Fifty-seven percent of the producers are tenant farmers, which generates an important weight and means that agronomic management is not the most appropriate (it is different when you are a tenant than when you are a landowner). In the Llanos, 74% of the planted area is under tenant farmers.

According to Fedearroz's report "The Dynamics of the Rice Sector in the Plains, tenant crops lead to chemical, physical and biological deterioration of the rice fields, increasing the production costs of the crop and generating negative effects on the environment".

Researcher Luis Guillermo Baptiste Ballera of the Javeriana University indicates that rice production generates environmental impacts such as deforestation of extensive areas, especially along the banks of rivers and streams, alteration of the hydrological regime of water flows due to semi-permanent flooding of irrigated rice crops, severe soil alteration due to flooding, mechanization, and the use of agrochemicals.

This type of rice cultivation complies with the scarce legislation on the matter, despite the fact that it leaves degradation and deforestation of the forest and soil degradation in strategic ecosystems, so much so that year after year the tenant farmers move from place to place in search of land without rice intervention, therefore, the advance on the project area is imminent without the actions of this project.

**7.2.2. Sub-step 1b. Consistency of land use alternatives with applicable laws and regulations.** In the Proclima Methodology, it is requested to eliminate from the land use scenarios identified in sub-step 1a any land use alternatives that do not comply with applicable mandatory laws and regulations, unless it can demonstrate that such alternatives are the result of systematic failure to comply with mandatory laws and regulations, in that sense, the applicable laws and regulations for the above list are described below.

- Continuation of previous land use: this land use alternative complies with the mandatory legal and regulatory requirements applicable since the Colombian Political Constitution of 1991 and the 2018-2022 national development plan "Pact for Colombia, Pact for Equity" promote agricultural development in the country and in the project area promote livestock, agroindustrial, and forestry production chains. The development plan of Arauca, Casanare, Meta and Vichada, departments where the project is being developed, emphasizes the promotion of palm, cocoa and livestock agribusiness in their territories, the following laws, and regulations applicable to this alternative:

Article 65 of the Constitution establishes that "food production shall enjoy the special protection of the State. To this effect, priority will be given to the integral development of agricultural, livestock, fishing, forestry and agro-industrial activities, as well as to the construction of physical infrastructure works and land adaptation".

Article 333 of the Constitution states that "economic activity and private initiative are free, within the limits of the common good. For their exercise, no one may demand prior permits or requirements, without the authorization of the law. Free economic competition is a right of all that entails responsibilities. The enterprise, as the basis of development, has a social function that implies obligations. The State, by mandate of the law, shall prevent the obstruction or restriction of economic freedom (...)".

Law 1753 of 2015, in its strategy of "transformation of the countryside", raises as one of the objectives the organization of rural territory and access to land for rural dwellers.

RESOLUTION 261 OF JUNE 21, 2018, of the MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT defined of the National Agricultural Frontier is the result of a joint work advanced in an articulated manner between the Agricultural, Fishing and Rural Development Sector and the Environment and Sustainable Development Sector, which resulted in the document "Methodology for the general identification of the Agricultural Frontier in Colombia.

The national development plan 2018-2022 "Pact for Colombia, pact for equity" that contemplates the Llanos-Orinoquía Region Pact: whose objective is to connect and enhance the sustainable pantry of the region with the country and the world and promotes in the area of this project we will boost the livestock, agro-industrial, forestry productive chains and consolidate the area of the agricultural frontier.

- REDD+ projects without certification of emission reductions: this land use alternative complies with the mandatory legal and regulatory requirements applicable decrees. Decree 2099 of 2016 of Minambiente and Decree 1007 of 2018 of Minambiente that establish payments for environmental services or payments for results as viable mechanisms in the country deliver forms of financing from the state. In fact, the Governorate of Casanare, Arauca and Meta together with the Autonomous Corporation Corporinoquia have implemented projects of this type, the following laws and regulations applicable to this alternative: Decree 1076 of 2015, Sole Decree, Sole Regulatory Decree of the Environment and Sustainable Development Sector.

Decree 2099 of 2016 of Minambiente "Whereby the Sole Regulatory Decree of the Environment and Sustainable Development Sector, Decree 1076 of 2015, is amended in relation to the "Forced Investment for the use of water taken directly from natural sources" and other determinations are made". Decree Law 870 of 2017 of Minambiente, whereby payments for environmental services and other conservation incentives are established.

Decree 1007 of 2018 of Minambiente, which amends Chapter 8 of Title 9 of Part 2 of Part 2 of Book 2 of Decree 1076 of 2015, Sole Regulatory Decree of the Environment and Sustainable Development Sector, in relation to the regulation of the general components of the incentive of payment for environmental services and the acquisition and maintenance of land in strategic areas and ecosystems.

- Other land-use alternatives, common land-use practices: leasing for mechanized rice cultivation: this land-use alternative complies with applicable mandatory legal and regulatory requirements and is an economic activity that is highly encouraged in national and departmental development plan policies. And despite the impacts of this mechanized rice production model, planting areas of less than 100 hectares do not require permits or environmental management measures according to the regional environmental authority Corporinoquia.

However, the Colombian government lacks the resources to effectively maintain or enforce these laws for crops larger than 100 hectares. This situation occurs in the project area, and generally in other regions of the country. According to several press reports, deforestation and degradation in protected areas has

progressed in recent years despite significant efforts by the state to improve the management of these areas and address the main factors that threaten their protection, the following laws and regulations apply to this alternative:

Article 65 of the Constitution establishes that "food production shall enjoy the special protection of the State. To this effect, priority will be given to the integral development of agricultural, livestock, fishing, forestry, and agro-industrial activities, as well as to the construction of physical infrastructure works and the adaptation of land". Article 333 of the Constitution establishes that "economic activity and private initiative are free, within the limits of the common good. For their exercise, no one may demand prior permits or requirements, without the authorization of the law. Free economic competition is a right of all that entails responsibilities. The enterprise, as the basis of development, has a social function that implies obligations. The State, by mandate of the law, shall prevent the obstruction or restriction of economic freedom (...)". Resolution 07 of 2021 of the Ministry of Agriculture and Rural Development by which the Plan for Rice Production Management in Colombia 2020- 2038 is adopted.

Resolution 200.41.11.1130 of June 22, 2011 partially modified by Resolution 500.41.13.1571 of November 06, 2013 of Corporinoquia, which dictate the Regional Environmental Criteria only for the Development of irrigated and rainfed rice agricultural projects in the Jurisdiction of Corporinoquia, keeping the other legal provisions of these administrative acts intact in relation to other agricultural, agro-industrial and other productive projects.

### **7.3. STEP 2. BARRIER ANALYSIS**

In accordance with Proclima's numeral 9 sub-step 2a, a barrier analysis was conducted to demonstrate that the proposed activities under the project scenario face barriers to implementation, and that these can be overcome with the intervention of finance through the sale of GHG emission reductions or carbon credits.

Sub-step 3a. Identification of barriers to project implementation

Existing land uses face no barriers and are therefore the reference scenario. Subsistence and medium-scale crops, livestock, etc., predominate in the region. Some of these activities, with the exception of cattle ranching, have a relatively low cost and, in general, are short-term activities, with the exception of cattle ranching, which is a long-term investment. Therefore, the associated financial and technological barriers are low, given that the implementation of this form of land use is based on traditional practices that do not use good agricultural practices and improved technology.

With the implementation of the CO2BIO project, alternative land uses to avoid impacting the traditional practices and customs of the inhabitants of the agricultural area, under the project, a series of activities are proposed, including agricultural technical assistance, aimed at improving traditional agricultural and livestock practices. These activities, compared to traditional practices, involve higher implementation costs, although they are expected to be sustainable over time (ecologically and financially). Improved productivity and economics are expected to have a positive effect on reducing deforestation by improving the livelihoods of empowered farmers. However, for implementation, the following barriers must be overcome:

- Investment barriers, among others:

One of the main barriers is access to credit and financing for conservation activities. The cost of implementing and maintaining these activities requires financing or access to credit facilities by the landowners or beneficiaries. This means, in most cases, providing guarantees or co-financing, as banks will not lend the money required if the landowner does not have a credit history or backing from a financially strong third party.

Debt financing is not available for these types of activities, which is reflected in the lack of access to credit by landowners. Finally, the lack of resources from the environmental authority to ensure compliance with the law could also be a financial barrier to forest conservation.

- Institutional barriers, among others:

Incentives for agricultural production are not geared towards sustainable production. For example, the National Federation of Cattle Ranchers does not monitor new areas converted to cattle ranching to confirm that they were not previously deforested areas. The same applies to loans from the Banks; non-deforestation in both cases should be a criterion for monitoring and access to institutional support to encourage forest protection and sustainable production. Another barrier is the weakness of environmental institutions to enforce environmental regulation.

- Barriers due to social conditions, among others:

Another barrier that would prevent project implementation, if the project does not contemplate participation in the carbon market, is social conditions. As mentioned in some sections of the PD, traditional practices in the project area are related to the expansion of the agricultural and livestock frontier. In this process, the traditional practice is the clearing and burning of forest areas for the establishment of crops and pastures. These practices are rooted in the community and, to some extent, may be a barrier at the time of project implementation, as it is still part of the customs and traditions of some farmers, and the adoption of new practices on their part may be seen as a change in their culture.

- Barriers related to land tenure, ownership, inheritance and property rights, among others.

Land ownership, with a hierarchy of rights for different stakeholders, limits the incentives to undertake the project; ownership is a right that is acquired in accordance with established legal provisions. In that sense there are legal figures such as possession (civil property) and occupation (State property) regulated by the civil code that also grant rights and therefore ownership. In this sense, one could not speak of a hierarchy of rights for the interested parties, but rather of the quality that each beneficiary holds in order to be linked to the project and therefore to enjoy the incentives granted within the framework of the initiative. The barrier materializes when the quality of owner or holder (possessor or occupant) is not met, for which the project owner provides advice and assists the person to initiate the necessary procedure in order to acquire the quality to which he/she is entitled according to the provisions of the Colombian Civil Code, Law 160 of 1994 and other regulations.

Lack of adequate land tenure legislation and regulations to support security of tenure: Although the regulations in place, especially for the adjudication of vacant properties (which represent 80% of the real estate linked to the project) are structured, they are not fully known or understood by the peasant population, which is why the adjudication application process to which the occupants of these properties are entitled is not carried out. Thus, the peasants have only a mere expectation of their right to occupancy, for which the project owner advises and assists each of the occupants to make the respective adjudication request, on the occasion of Law 160 of 1994 and Decree 1071 of 2015 and subsequently their linkage to the project.

Absence of clearly defined and regulated property rights in relation to natural products and services: As mentioned in paragraph a, the project owner, prior to linking a real estate property to the initiative and within the framework of the provisions of Resolution 1447 of 2018, conducts a study and analysis of the ownership and tenure of the land and therefore of the rights held with such prerogative. Thus, by having legal certainty of the quality that the beneficiary has, it is possible to determine the legal capacity to dispose of the use of the land.

Formal and informal tenure systems that increase the risk of land fragmentation: Land tenure occurs on the occasion of the possession or occupation of the land (as mentioned in literal b) figures legally established in the Colombian Civil Code; However, depending on the type of location where the land is located, situations may arise or occur that violate the acquired rights of the people who inhabit it, due to factors such as violence, forced displacement, among others; therefore, the owner of the project makes a detailed analysis of the social impact that is externalized in the municipality where the properties to be linked in the initiative are located, in order to determine the legal feasibility regarding the linkage of the properties.

However, activities implemented under a REDD project scenario could overcome the identified barriers, as revenues from the sale of carbon certificates will be used to raise capital through conservation incentives, technical assistance, marketing support, etc.

- 7.3.1. Sub-step 2b. Show that the identified barriers would not prevent implementation of at least one of the identified land use alternatives (except the project activity).

The land uses identified in the baseline scenario are not affected by the aforementioned barriers, given that national and regional regulations and development plans promote agricultural development in the region. In this context, in the project area, the livestock sector continues to be a very important sector and the source of landowners' main income. In short, the project promotes the implementation of good environmental practices, the effective management of environmentally strategic areas, the declaration of protected areas and territorial planning to strengthen this alternative land use.

## **7.4. STEP 3. IMPACT OF PROJECT REGISTRATION**

Through the certification and registration of the project in PROCLIMA, the most relevant benefit is the financial one, taking into account that the income obtained from the sale of CCVs.

In order to grant economic incentives to landowners that make possible the non-transformation of ecosystems and their conservation in the project area, a financial analysis is initially performed, taking into account the project monitoring period (initial investment required by the project) and the period of quantification of GHG reductions and/or removals (action window), thus achieving a financial projection from 2015 to 2055. This analysis is carried out through the financial model tool, which details investment items, costs and expenses as well as the projected CCV inventory and therefore sales, so that the following positive results are determined for the implementation of the project in the Orinoquia region (See Annex 8. Financial Model).

## **8. CONSERVATIVE APPROACH AND UNCERTAINTY MANAGEMENT**

As stipulated in the PROCLIMA standard version 3.0 in ITEM 10. 5, no discount percentages are applied for uncertainty management, taking into account that, for the quantification of project emissions, the most recent FREL (2019) was used, through the methodological reconstruction of the FREL in the project area and following the Proclima methodology for calculations, while for obtaining all cartographic inputs for the survey of the project boundaries, the forest cartographic bases provided by the IDEAM

were used; on the other hand, the use of conservative values for the entire project is guaranteed.

## 9. OWNERSHIP AND CARBON RIGHTS.

Cataruben Foundation, as owner of the initiative, verifies that the beneficiary of the project is the owner, possessor, occupant, or successor, depending on the case, of the property to be linked to the project, in accordance with the provisions of Articles 669, 673 and 762 of the Colombian Civil Code, at least during the period of quantification of GHG reductions or removals.

Therefore, in the process of linking land to the project, a legal study of the conditions of ownership or tenure is carried out, through an analysis of the documents provided by the applicant, such as: Public Deed of real estate, Certificate of Tradition and Freedom, Resolution of Adjudication of vacant property (issued by INCODER, now National Land Agency), request for adjudication of vacant property (before the ANT in Spanish), certificate of Healthy Possession, Public Deed of Succession, Executed Judgment of Succession, Civil Registry of Death, among others.

In addition, the Land Restitution Unit verified that none of the properties to be linked to the project are in the process of restitution; it was determined that the properties do not have conflicts of dispossession or abandonment due to the armed conflict.

Once legal certainty is established with respect to the applicant's ownership, occupation and possession rights, among others, of the land, a binding contract is signed with the purpose of incorporating the total area of the real estate under study in the project. In this sense, the sixth clause of this instrument establishes the imperative obligation of the applicant (later beneficiary) to demonstrate ownership or possession of the land on which the forestry activity is being developed, for a period greater than or equal to the duration of the project. The foregoing in accordance with the provisions of Article 45 of Resolution 1447 of 2018.

Finally, the respective request was made to the Ministry of the Interior, in order to establish whether or not ethnic communities are registered in the project area, by means of a request to determine the appropriateness and timeliness of prior consultation for the implementation of projects, works or activities (See Annex 6. OWNERSHIP AND RIGHTS OVER CARBON).

## 10. CONSULTATION OF INTERESTED PARTIES

Cataruben Foundation carried out the respective consultation on the implementation of the project, in accordance with the provisions of paragraph 10.16 of the Program for Certification and Registration of GHG Mitigation Initiatives and Other Greenhouse Gas Projects. Version 3.0; notifying the representatives of the territorial, governmental and non-governmental entities for the departments of Arauca, Casanare, Meta and Vichada (See Annex 5. CONSULTATION OF INTERESTED PARTIES); at the same time the respective comments and suggestions were presented by the parties involved, which have been applied in the development of the project (See Annex 7. CONSULTATION OF INTERESTED PARTIES).

## 11. LIST OF ANNEXES

1. CO2Bio PROJECT CALCULATIONS
2. MONITORING OF REDD+ ACTIVITIES
3. SDG MONITORING
4. SAFEGUARDS MONITORING
5. G.I.S.
6. OWNERSHIP AND CARBON RIGHTS
7. STAKEHOLDER CONSULTATION
8. FINANCIAL MODEL

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