

# Funding Proposal

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## **FP146: Bio-CLIMA: Integrated climate action to reduce deforestation and strengthen resilience in BOSAWÁS and Rio San Juan Biospheres**

Nicaragua | Central American Bank for Economic Integration (CABEI) | Decision B.27/01

13 November 2020



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### *Note to Accredited Entities on the use of the funding proposal template*

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the [GCF Information Disclosure Policy](#), project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

**Please submit the completed proposal to:**

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

**Please use the following name convention for the file name:**

“FP-CABEI-Nicaragua-20200605”

A. PROJECT/PROGRAMME SUMMARY			
<b>A.1. Project or programme</b>	ProjectProject	<b>A.2. Public or private sector</b>	PublicPublic
<b>A.3. Request for Proposals (RFP)</b>	Not applicable Not applicable Not applicable Not applicable		
<b>A.4. Result area(s)</b>	<p><b>Mitigation:</b> Reduced emissions from:</p> <p><input type="checkbox"/> Energy access and power generation:</p> <p><input type="checkbox"/> Low-emission transport:</p> <p><input type="checkbox"/> Buildings, cities, industries and appliances:</p> <p><input checked="" type="checkbox"/> Forestry and land use:</p> <p><b>Adaptation:</b> Increased resilience of:</p> <p><input type="checkbox"/> Most vulnerable people, communities and regions:</p> <p><input type="checkbox"/> Health and well-being, and food and water security:</p> <p><input type="checkbox"/> Infrastructure and built environment:</p> <p><input type="checkbox"/> Ecosystem and ecosystem services:</p>		<p><b>GCF contribution:</b></p> <p><u>Enter number</u>%</p> <p><u>Enter number</u>%</p> <p><u>Enter number</u></p> <p><u>100</u> %</p> <p><u>Enter number</u>%</p> <p><u>Enter number</u>%</p> <p><u>Enter number</u>%</p> <p><u>Enter number</u>%</p>
<b>A.5. Expected mitigation impact</b>	47.3 M t CO <sub>2eq</sub> in 20 years	<b>A.6. Expected adaptation impact</b>	<p>51,100 Direct beneficiaries</p> <p>614,721 Indirect beneficiaries</p> <p>0.8 % of population (direct beneficiaries/total population)</p> <p>9.8 % of population (indirect beneficiaries/total population)</p>
<b>A.7. Total financing (GCF + co-finance)</b>	115,692,245 USD	<b>A.9. Project size</b>	Medium (Upto USD 250 million)
<b>A.8. Total GCF funding requested</b>	64,094,029 USD		
<b>A.10. Financial instrument(s) requested for the GCF funding</b>	<p><input checked="" type="checkbox"/> Grant 26,139,067</p> <p><input checked="" type="checkbox"/> Loan 37,954,962</p> <p><input type="checkbox"/> Guarantee <u>Enter number</u></p> <p><input type="checkbox"/> Equity <u>Enter number</u></p> <p><input type="checkbox"/> Results-based payment <u>Enter number</u></p>		
<b>A.11. Implementation period</b>	7 years	<b>A.12. Total lifespan</b>	20 years
<b>A.13. Expected date of AE internal approval</b>	This is the date that the Accredited Entity obtained/will obtain its own approval to implement the project/ programme, if available. 11/26/202011/26/2020	<b>A.14. ESS category</b>	Refer to the AE's safeguard policy and <a href="#">GCF ESS Standards</a> to assess your FP category. AA
<b>A.15. Has this FP been submitted as a CN before?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>A.16. Has Readiness or PPF support been used to prepare this FP?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>A.17. Is this FP included in the entity work programme?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>A.18. Is this FP included in the country programme?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>A.19. Complementarity and coherence</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
<b>A.20. Executing Entity information</b>	Republic of Nicaragua, acting through its Ministries of Environment and Natural Resources (MARENA) and Finance and Public Credit (MHCP)		

#### A.21. Executive summary (approximately 1.5 pages)

1. Between the years 2005 and 2015 Nicaragua lost approximately 150,000 ha of tropical forests every year equivalent to 14.45 M t CO<sub>2eq</sub>/a at a rate of 2.3%<sup>1</sup>. Deforestation occurs mainly in the Caribbean Region<sup>2</sup> (CR) that covers 54% of the national territory, contains 80% (3.16 million ha) of Nicaragua's forestland and the majority of the nation's indigenous populations. The CR contains the BOSAWAS Natural Reserve in the Northeast<sup>3</sup> and the Indio Maíz Biological Reserve in the Southeast<sup>4</sup> which are important areas for the conservation of biodiversity and the livelihoods and cultures of indigenous and afro-descendant people. Within the core zones of these protected areas the deforestation rate between 2010 and 2015<sup>5</sup> overtook the national rate reaching 2.7% annually. The main underlying causes for deforestation and forest degradation in the CR<sup>6</sup> are the following: Demographic pressures caused by drought in the Pacific and Central Regions of Nicaragua and the expanding road system that have generated migration flows into the CR where "idle" forest-covered land has been abundant and institutional capacities to enforce environmental, land planning and forestry laws are weak. These factors combined with low land prices, undervaluation of standing forests, lack of access to technical and financial support and responsible markets have driven settlers to convert forests into extensive pastures with the aim to take as much land as possible, often encroaching into indigenous territories. Between the years 1983 and 2015, 2.2 million ha of forests were cut down and 1.4 million ha of extensive pastureland was established.<sup>7</sup>

2. To revert this vicious cycle in such a vast territory that covers more than half of the entire country an investment proportionate to the task at hand of approximately US\$115.7 million will have to be mobilized. Nicaragua has decided to implement its National REDD+ Strategy through a programmatic approach: GCF (22.59%) and GEF-7 (7.16%) grant finance, together with new public debt from CABEL (16.42%%) and the GCF (32.81%%) shall be invested through Bio-CLIMA in 7 years to unlock Emission Reduction Result-Based Payments (RBP) within the Emission Reduction Program (ER-P) for the Caribbean Region that has been approved by the Forest Carbon Partnership Facility (FCPF)<sup>8</sup>. RBP's of US\$ 24.3 million shall co-finance 21.02%% of Bio-CLIMA's budget until year 7, which are a fraction of US\$ 236.5 million REDD+ RBPs that could be leveraged from reduced emissions until year 20 in a conservative scenario<sup>9</sup>, as result of the paradigmatic change Bio-CLIMA aims to create, scale-up and sustain. This transformative vision shall be accomplished through a three-pronged strategy of mutually reinforcing interventions consisting of focalized investments for sustainable landscape restoration and management, the creation of an enabling investment environment, and strong local capacities for territorial governance and law enforcement with the supporting tools and instruments needed. These are organized within the following three project components.

3. **Component 1 "Conserving and producing for life"**: 81.64% of Project budget (US\$ 94,455,226) will be on-site "hard" investment to support indigenous communities and individual families with the means, capacities and technical assistance needed to improve their livelihoods through sustainable land-use intensification, landscape restoration and forest conservation. Participatory land-use, restoration- and conservation zoning, business planning and market access for the individual family, producer group and indigenous community will be provided to bring to scale field proven cocoa agroforestry and sustainable silvo-pasture productive landscape restoration and forest conservation models. These shall be implemented at the deforestation fronts in and around the core areas of BOSAWAS and Indio Maíz in order to form a protective bow around them; as also in forest rich areas in indigenous territories in the Waspam and Prinzapolka areas where deforestation pressures are the highest (Maps 1 - 3). Ecosystem services on 20,994 ha of degraded pasture and rangeland will be restored through sustainable cocoa-agroforestry and silvo-pastoral systems; 40,215 ha of micro-catchments reforested, and 541,826 ha of natural forest land conserved through sustainable forest management and restoration; benefitting 51,100 women, men and young people directly.

4. **Component 2 "Good governance"**: 10.29% of Bio-CLIMAs' budget (US\$11,905,361) will be invested to create an enabling environment that offers clear and simple norms, efficient local institutions and transparent governance schemes. Public environmental institutions in the CR will be provided with equipment and capacities to support sustainable land use planning and environmental/forest law enforcement. The 23 Indigenous Territory Governments (GTIs) of the CR shall use the budget transferred to them to improve the oversight and control of their territories covering an area of 1.7 million hectares. Complementarily, Bio-CLIMA will facilitate the public-private dialogue processes involving all relevant actors to create the investment facilities (Trust Funds) to promote and bring to scale the sustainable

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<sup>1</sup> National Emission Reference Level: "Niveles de Referencia de las Emisiones Forestales. República de Nicaragua. MARENA 2020" Updated to July 2020. [https://redd.unfccc.int/files/nref\\_nicaragua\\_vf\\_limpio\\_14072020.pdf](https://redd.unfccc.int/files/nref_nicaragua_vf_limpio_14072020.pdf) (pages 19 and 41)

<sup>2</sup> The Caribbean Region of Nicaragua covers an area of 70,237 km<sup>2</sup> equivalent to the land areas of Belgium and the Netherlands together. It includes the Alto Wangki y Bocay Region, the North (RACCN) and South (RACCS) Autonomous Regions; and the Departamento de Río San Juan.

<sup>3</sup> The BOSAWAS Natural Reserve is part of the Biosphere which includes also the other Protected Areas of Cerro Kilambé, Cola Blanca, Banacruz, Macizo de Peñas Blancas y Pis Pis; and the National Park "Cerro Saslaya".

<sup>4</sup> Indio Maíz is part of the San Juan Biosphere which includes: Monumento Histórico "Fortaleza La Inmaculada Concepción", Monumento Nacional "Archipiélago de Solentiname", Refugios de Vida Silvestre (Río San Juan y Los Guatuzos), Reserva Biológica "Indio Maíz" and three protected areas (Cerro Silva, Punta Gorda, Serranía de Yolaina).

<sup>5</sup> Banco Mundial; CIAT. 2015. Climate-Smart Agriculture in Nicaragua. CSA Country Profiles for Africa, Asia, and Latin America and the Caribbean Series. Washington D.C.: The World Bank Group.

<sup>6</sup> The main causes for deforestation and forest degradation have been thoroughly assessed through: Study of the causes of deforestation and forest degradation in Nicaragua. ", Ministry of the Environment and Natural Resources. MARENA 2017. 125 pp.)

[http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/2.%20Estudio%20Causas%20Desforestaci%C3%B3n%20y%20Degradaci%C3%B3n%20Forestal%20\(English\).pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/2.%20Estudio%20Causas%20Desforestaci%C3%B3n%20y%20Degradaci%C3%B3n%20Forestal%20(English).pdf)

<sup>7</sup> ENDE REDD+. MARENA 2018. Note: This area is equivalent to half the territory of Switzerland, or as big as the Republic of El Salvador.

<sup>8</sup> <http://www.marena.gob.ni/Enderedd/etapas/programa-de-reduccion-de-emisiones/> Caribbean Coast Emission Reduction Program (ERP) Nicaragua. Approved by the 19th Carbon Fund Meeting of the "Forest Carbon Partnership Facility" (FCPC) / World Bank, through resolution CFM/20/2019/4, Washington DC, between 8 and 11th July 2019.

[https://www.forestcarbonpartnership.org/system/files/documents/CF20%20Resolution%204%20Endorsement%20of%20Nicaragua%20ER%20Program\\_FINAL.pdf](https://www.forestcarbonpartnership.org/system/files/documents/CF20%20Resolution%204%20Endorsement%20of%20Nicaragua%20ER%20Program_FINAL.pdf)

<sup>9</sup> Emission reduction estimates are very conservative, considering the achievement of only 50% of emission reduction targets estimated in the ERP (please see FP Table 8).

landscape restoration and forest conservation models, and to simplify norms and procedures to reduce transaction costs for natural resources sustainable management, use and market access. All these interventions aim to create the enabling regulatory and governance environment, paving the way to transform extensive and destructive land use-forms into sustainable climate resilient practices, targeting especially small vulnerable farmers and households on deforestation fronts.

**5. Component 3 “Capacity development”:** To transform a sectoral land use approach into an integrated and sustainable farm, landscape and ecosystem restoration approach, 7.25% of the Project budget (US\$8,382,836) will be invested in the CR through a major training and capacity-building effort: Technical personnel from public institutions and extension services, farmers and beneficiaries will be trained in topics including integrated land use management and planning (LUMP), territorial development planning (TDP), and the implementation and maintenance of productive landscape restoration and forest conservation modules, business planning, efficient administration of local organizations, quality management and market access, environmental legislation and norms, among others. Environmental information and management systems to generate data and intelligence to support law enforcement shall be put in place which include a Deforestation and Forest Fire Early Warning System (SAT) and a Timber Tracking System (TTS). The land use changes monitoring system operated by MARENA within the REDD+ M-MRV System will also be strengthened, up-dated and linked to the National Forest Inventory (NFI).

6. This very ambitious plan to shift the prevailing development paradigm, which is based on extensive natural resources and landscape exploitation, towards climate smart, sustainable development can only be reached if a deep transformation of values within the society is achieved. Bio-CLIMA will inform political decision makers at regional and local level and create environmental awareness through an intensive public communication campaign and an education program for schools and universities.

7. BIO CLIMA’s comprehensive intervention strategy is designed to go beyond a one-off project: its climate resilient productive landscape restoration and forest conservation models have been field tested and have the potential to be replicated in the entire CR. Existing National Funds will be capitalized and strengthened, and new Investment Facilities managed as Trust Funds by private banks with the participation of the private sector will be set up with Project support to provide for sustainability and scale. Additional technical capacities and strengthened institutions will serve to replicate and expand the project approach. Although Bio-CLIMA will primarily have a climate change mitigation impact, the Project will additionally generate important climate change adaptation co-benefits. Its outcomes, outputs and activities contribute mainly to the achievement of GCF Impact Results M.4 “Reduced emissions from land use, deforestation, forest degradation and through sustainable management of forests and conservation and enhancement of forest carbon stocks” (47.3 Mt CO<sub>2eq.</sub> in 20 years). In addition Bio-CLIMA shall generate adaptation co-benefits on GCF Result Areas A.1 “Increased resilience and enhanced livelihoods of the most vulnerable people” (51,100 direct beneficiaries, 0.8%/pop., 614,721 indirect beneficiaries 9.8%/pop.) mainly indigenous, afro-descendant families living in marginalization and poverty, contributing also to increased intercultural<sup>10</sup> gender equality; and to A.4 “Improved resilience of ecosystems and ecosystem services (coverage/scale 2.32 million ha of ecosystems protected<sup>11</sup>).

<sup>10</sup> “Interculturality” means ‘relationship between cultures’, and refers to making the best use of each culture, so there will be reciprocity, knowledge, appreciation, understanding, interaction, participation, horizontality, respect and solidarity with other cultures. See Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN), 2008, Guía de investigación intercultural de la URACCAN, Bilwi: URACCAN.

<sup>11</sup> Bio-CLIMA will directly improve the resilience of ecosystem and ecosystem services of an area equivalent to the total national land area of Belize, which is 2,296,500 ha.

## B. PROJECT/PROGRAMME INFORMATION

### B.1. Climate context (max. 1000 words, approximately 2 pages)

8. The Caribbean Region (CR) constitutes more than half of the national territory and contains approximately 64% of the country's forests (2.49 M ha). It is inhabited by only 15% of national population (12.7 inhabitants/km<sup>2</sup>) most (67%) in rural areas. The main economic activities in the CR are subsistence agriculture, livestock, coffee, cocoa, palm oil, bamboo, fishing (including shrimp and lobster), logging, tourism and mining<sup>12</sup>. The CR is home of most indigenous and afro-descendant people that control most closed broadleaved forests. Nevertheless, the deforestation rate in the CR has been very high: Between the years 2000 and 2015 it suffered a mean deforestation of 90,854 ha of tropical forests every year equivalent to emissions of 14.17 Mt CO<sub>2eq</sub>/year – and additional anthropogenic forest degradation of 16%, equivalent to an average of 2.43 Mt CO<sub>2eq</sub>/year<sup>13</sup>. Most of these areas have been converted into pastureland, crops or to secondary vegetation “*tacotales*”, which increased in area 30% and 53% respectively.

9. The main underlying causes for deforestation and forest degradation in the CR have been thoroughly assessed<sup>14</sup> recently for both, Nicaragua's REDD+ Strategy (2018-2040), and the Emissions Reduction Program (ERP) for the Caribbean Coast of Nicaragua: Demographic pressures caused by drought in the Pacific and Central Regions of Nicaragua and the expanding road system have generated strong migration flows into the CR where “idle” forest-covered land has been abundant and institutional capacities to enforce environmental, land planning and forestry laws are still weak. These factors combined with low land prices, undervaluation of the standing forest, lack of access to TA, finance and responsible markets have driven settlers to convert forests into extensive pastures with the aim to initially take as much land as possible, often encroaching into indigenous territories. Between the years 1983 and 2015, 2.2 million ha of forests were cut down and 1.4 million ha of extensive pastureland was established. The area converted to perennial crops multiplied by ten in that period<sup>15</sup>.

10. Because of feed and water scarcity in the northern (Estelí, Madriz, Nueva Segovia) and central (Matagalpa, Chontales) parts of Nicaragua, low land prices and a more constant (and relatively high) rainfall ensuring feed availability have attracted many livestock farmers to the CR<sup>16</sup>. This has resulted into expansion of livestock into the buffer zones and the core zones of protected areas. The predominant livestock production system is extensive, where animals are grazing freely on mostly traditional pastures on deforested and often not suitable soils (texture (high clay-content) and inadequate nutrient availability) lead quickly to pasture degradation, deforestation and loss of biodiversity and low productivity both per area and per animal. These systems are also highly vulnerable to climate change as they mainly depend on pastures without much supplementary feeding during times of challenging weather conditions (e.g. drought or flooding).

11. The predominant extensive livestock system is dual-purpose (milk and beef), characterized by low stocking rates (less than one animal per ha), poor productivity and reproduction parameters, also when compared to the central and Pacific regions of Nicaragua. Livestock productivity is limited mostly by the lack of availability of good quality feed. Milk production ranges from 3 to 7 kg per animal per day (on average 4.5 kg), most of the milk processed into cheese for the local, national and some export markets. Cattle for beef production reach typically a finishing weight of 380 kg after 3.5 years, but many farmers sell their animals at a younger age (14 months, 150 kg), to intermediaries or farmers who

<sup>12</sup> Agriculture contributes with 17% to Nicaragua's GDP and represents more than 70% of the country's total exports.

<sup>13</sup> Emissions Reduction Program Nicaragua. FCPF July 2019. [http://www.marena.gob.ni/Enderedd/wp-content/uploads/2019/11/ERP\\_INGLES\\_310719\\_VF.pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/2019/11/ERP_INGLES_310719_VF.pdf) (pages 22 and 185)

<sup>14</sup> Study of the causes of deforestation and forest degradation in Nicaragua. “The problem of forest carbon inventories and the strategic focus of the ENDE-REDD+ Program to attend these causes on a national level”. Project Support for Strategy Preparation for the Reduction of Emissions by Deforestation and Forest Degradation (ENDE-REDD+) MARENA 2017. 125 pp.) [http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/2.%20Estudio%20Causas%20Desforestaci%C3%B3n%20y%20Degradaci%C3%B3n%20Forestal%20\(English\).pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/2.%20Estudio%20Causas%20Desforestaci%C3%B3n%20y%20Degradaci%C3%B3n%20Forestal%20(English).pdf)

<sup>15</sup> Strategy to reduce emissions from deforestation and forest degradation. MARENA 2017. [http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/13.%20Estrategia%20Nacional%20ENDE%20\(English\).pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/13.%20Estrategia%20Nacional%20ENDE%20(English).pdf)

<sup>16</sup> Annex 2.b: CIAT/FAO 2019: Business as Usual and Feasibility Study for Landscape Restoration through Sustainable Silvo-pastures within the Bio-CLIMA Project.

specialize in fattening. The market is mainly domestic (slaughterhouses), export of live animals takes place to Honduras, Mexico and Venezuela. Part of the exported meat, often of low quality, goes to the United States to be processed into hamburgers.

12. Favorable market conditions created by free trade agreements with Central American countries, Venezuela, and the US have stimulated livestock expansion. Between the years 2000 - 2009, the national livestock sector grew at a 5% annual rate, and between 2006 and 2015 the export value of livestock products increased by 176%<sup>17</sup>. Presently, beef and dairy products are among the top four exports in terms of value. In 2015, Nicaragua exported over 222,000 metric tons of livestock and dairy products, valued at nearly US\$700 million, which represents almost 10% of GNP and contributes more than 25% of the total value of exports. The indicators of the Business as Usual (BAU) scenarios presented in Section B.3 (very high GHG emission intensities and water requirements per unit of product) show that even without a further increase in livestock numbers (which is against the current trend) the expansion of pastureland and the degradation of already established ones will continue. This will result in further expansion of pastureland into protected areas and indigenous territories, and a further deterioration of already degraded pastures causing further soil erosion, deterioration of ecosystems and ecosystem services, and other landscape elements.

13. While in year 2000 the Agriculture, Forestry and Land Use (AFOLU) sector accounted to nearly 92% of Nicaragua's GHG emissions, sectoral contribution has been reduced steadily to reach 68% in 2010 most of it still being generated through loss of forest. Both CH<sub>4</sub> and N<sub>2</sub>O emissions increased by 36% between years 2000 to 2010 to 6,492 and 2,252 GgCO<sub>2</sub><sub>eq</sub>, respectively, mainly from the enteric fermentation of livestock (41%) and the management of agricultural soils (47%)<sup>18</sup>

14. The CR contains the BOSAWÁS Biosphere Reserve<sup>19</sup> in its northwest, while the Río San Juan Biosphere<sup>20</sup> which stretches from the Southeast of the RACCS into the *Departamento Río San Juan* and contains the *Indio Maíz* Biological Reserve. These areas mostly covered with tropical rain forest are home to some seventy ecosystems, thirteen of the nation's 21 most important watersheds and contain a higher number of tree, bird, and insect species than all of Europe. Within these two protected areas forest cover diminished by 2.7% between years 2010 and 2015<sup>21</sup>, demanding urgent action and substantial investment to protect them. Deforestation in the municipalities located within the buffer zones of both Biosphere Reserves continues to be alarming, as shown by the forest cover change assessment for the period 2015 and 2018 carried out by MARENA<sup>22</sup>. Deforestation also threatens the regular supply of water for rural livelihoods, and the permanence and biological connectivity of very important natural forest lands in indigenous territories in the *Waspam* and *Prinzapolka* forest areas.

<sup>17</sup> TechnoServe, 2017. In ER-PD, *ibid*.

<sup>18</sup> Contribución Nacionalmente Determinada a la Mitigación del Cambio Climático (NDC) de la República de Nicaragua antes la Convención Marco de Naciones Unidas sobre Cambio Climático (CMNUCC). 2018.

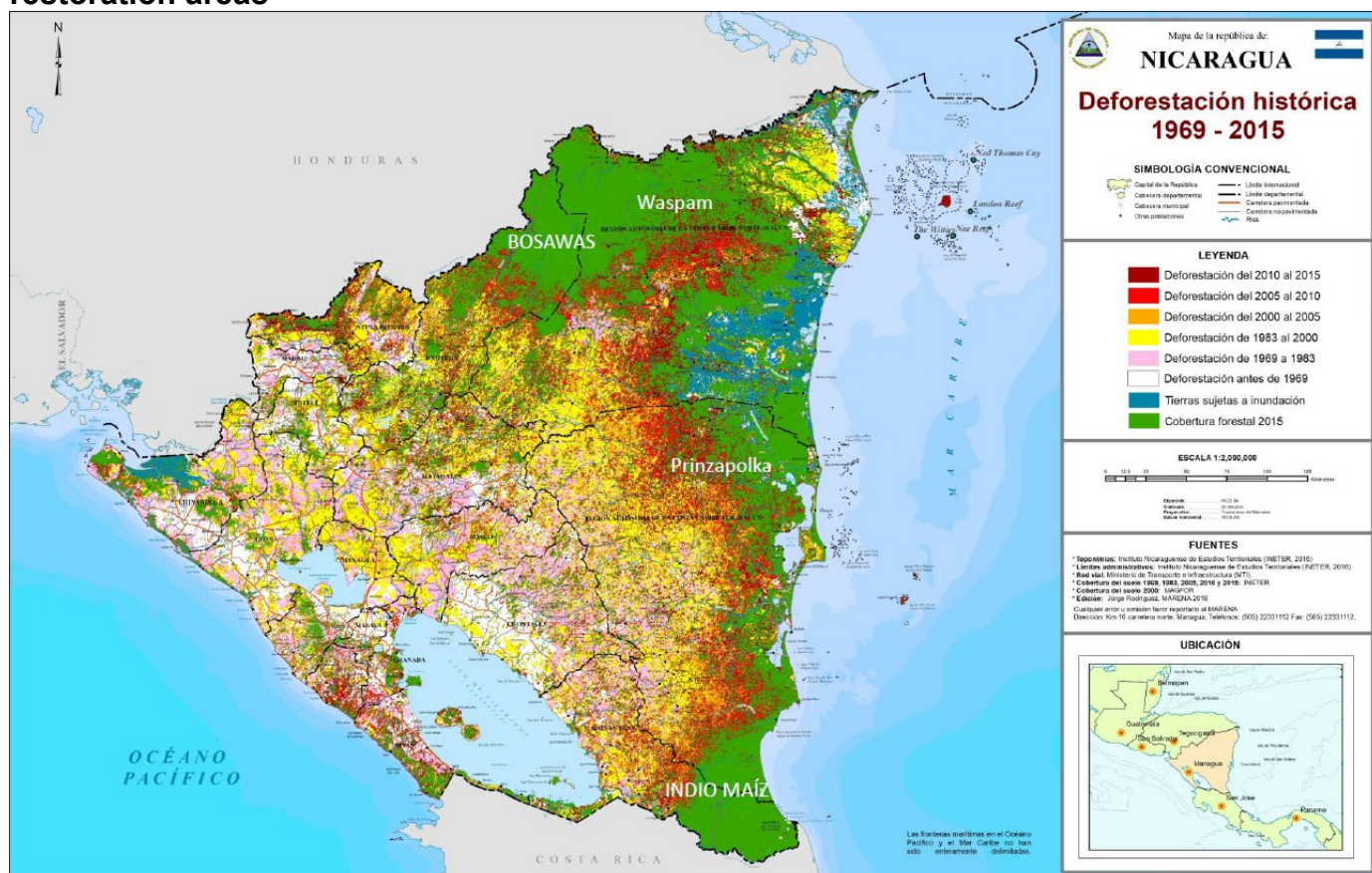
<sup>19</sup> Includes six Natural Reserve Areas (BOSAWAS, Cerro Kilambe, Cola Blanca, Banacruz, Macizo de Peñas Blancas y Pis Pis) and the National Park "Cerro Saslaya".

<sup>20</sup> Includes: Historical monument "Fortaleza La Inmaculada Concepción", National Monument "Archipiélago de Solentiname", two Wild Life Refugees (Río San Juan y Los Guatuzos), the Biological Reserve "Indio Maíz" and three Natural Reserve Areas (Cerro Silva, Punta Gorda, Serranía de Yolaina).

<sup>21</sup> World Bank; CIAT. 2015. Climate-Smart Agriculture in Nicaragua. CSA Country Profiles for Africa, Asia, and Latin America and the Caribbean Series. Washington D.C.: The World Bank Group.

<sup>22</sup> MARENA 2018 Priorización de áreas de intervención del Proyecto BIO-CLIMA, Noviembre 2018.

**Map 1: Deforestation years 1969 – 2015, and location of Bio-CLIMA project areas: BOSAWAS and Indio Maíz protected areas; Waspam and Prinzapolka forest management and restoration areas**



15. The population of the CR was estimated at 1.1 million inhabitants (2013)<sup>23</sup> with most people living at the coast. The population is multi-ethnic, including Miskito, Rama, Mayagna and Ulwa (indigenous), Garifuna and Creole afro descendent) people. In the RACCN the population is predominantly Miskitu (72%) and Mestizo (22%), while in the RACCS most people are Mestizo (81%) and Creole (8.5%). Since nearly all remaining natural forests are located in the 23 indigenous and afro-descendent territories, which has a total land area of 3,819,340 ha and includes 304 communities<sup>24</sup>, Bio-CLIMA will focus its interventions on these territories and strive to support its inhabitants to restore, protect and make sustainable use of its forests and natural resources. In 2018 in Nicaragua, the female population was the majority, with 3,278,837 women, which represents 50.71% of the total, compared to 3,186,676 men who are 49.29%. While gender differences and disadvantages have been reduced steadily in Nicaragua inequality between men and women persists: Nicaragua ranks at place 55 of 129 countries with a gender equality index of 60.4<sup>25</sup>. Employment rate (+13 years of age) is much higher for rural men (86.6%) than for rural women (62%)<sup>26</sup>. Nicaragua is part of a select group of 10 countries worldwide that have closed the gender gap by more than 80%.

<sup>23</sup> In Caribbean Coast Emission Reduction Program Document (ER-PD) submitted to the Forest Carbon Partnership Facility FCPC. Carbon Fund. Nicaragua, May 29, 2018

<sup>24</sup> Benefit Sharing Plan of the REDD+ Emission Reductions Program. MARENA. (version February 4, 2020)

<sup>25</sup> Equal Measures 2030, Harnessing the power of data for gender equality, Introducing the EM2030 SDG Gender Index, Retrieved from: [https://www.equalmeasures2030.org/wp-content/uploads/2019/07/EM2030\\_2019\\_Global\\_Report\\_English\\_WEB.pdf](https://www.equalmeasures2030.org/wp-content/uploads/2019/07/EM2030_2019_Global_Report_English_WEB.pdf) on 07/08/2019

<sup>26</sup> Atlas de las mujeres rurales de América Latina y El Caribe. FAO, 2017.

16. The land tenure assessment undertaken for the CR reports that 98.12% of the land is titled, 53% as communal property of 23 indigenous and afro descendant people, 45% as private property while only 2% of the land has not yet been titled<sup>27</sup>. While in some indigenous territories there is the presence of non-indigenous families that have settled and live there, this does not affect the legal right that original peoples have over their territory. According to Law 445 on Communal Property Regime of the Native Peoples and Ethnic Communities of the Autonomous Regions of the Caribbean Coast and the Bocay, Coco, and Maíz Rivers and the civil code of Nicaragua, communal property is defined as collective and is made up of land, water, forests and other natural resources that have traditionally belonged to the community<sup>28</sup>. It includes the traditional knowledge, intellectual and cultural property, biodiversity and other goods, rights and actions that belong to one or more indigenous or ethnic communities. Communal land cannot be taxed, sold or divided and the property right does not end in time. Nevertheless, due to strong migration pressure from the western part of the country, encroachment into indigenous territories by colonists and land conflicts occur, exacerbating cultural and gender inequalities, since the presence of local public institutions and the rule of law is still weak. Although the Law of Agrarian Reform from 1981 of Nicaragua was a pioneer in recognizing equal rights for women and men as its beneficiaries the relation of women to men that was granted land titles was 10 to 90. This relation improved slightly during the Agrarian Land Titling Program of the nineties but improved a lot after the joint action taken by UNAG/INIM in 1995 where a rate of 31% in favor of women could be achieved. At a national level the percentage of women that owned the land or had other form of land access was 19.9% in the year 2005. In order to contribute to development, it was proposed in 2015 to have Law No. 717, Law Creating the Fund for the Purchase of Land with Gender Equity for Rural Women, setting forth the right to property, equality and the right to decent housing. Likewise, it is the official government policy that in the process of legalizing the property, free titling with gender equality is guaranteed. Yearly they are more families headed by women; currently in rural areas 26% and in urban areas 46.7%<sup>29</sup>.

17. A recent survey undertaken on 359 non-indigenous settler families living on the deforestation front around BOSAWAS<sup>30</sup> revealed that 65% of these households live below the poverty line, only 20% have legal land titles and a same portion do not have any titles. The remaining 60% of households hold other informal land transfer contracts or private instruments of their land possession, which is a source of increasing conflicts. This situation demands urgent action through tailored interventions, facilitation of land use and conservation agreements, and innovative financial instruments at high concessionality and grants, if the problem of deforestation and poverty reduction is to be tackled.<sup>31</sup>

18. Poor level of organization of the cocoa sector hinders its effective development. While three investors have introduced better quality plants in the region, most small producers<sup>32</sup> are not trained for running business, and their organization into cooperatives or association is limited. It is necessary to develop the collection and processing network in the region, to improve the quality of the cocoa and its market access. Additionally, the producers do not have access to improved genetic material which results in low productivity. Technical assistance to producers' families is insufficient. Most of the producers are not properly trained on technical aspects, production costs and knowledge of the cocoa business (especially production costs). Approximately 30% of the cocoa plantations that exist in the CR are unproductive areas, poorly planned and old, and suffer of pests and diseases, which is why production currently decreased by 25-30% (Nicaraguan Cocoa Sector Commission, APEN, SDC, 2018). It can also be added that the producer does not know management methods and products to combat *Monilia* and black pod diseases, the latter being the most problematic. In the same way, the plantation is managed

<sup>27</sup> Information about the tenure of these remaining 2% is unclear.

<sup>28</sup> González M (2017). Community land property ownership in the Nicaraguan autonomous regime. In "Securing rights in tropical lowlands". International Development Studies Program, Department of Social. Science, York University, Toronto, Canada.

<sup>29</sup> INIDE 2019

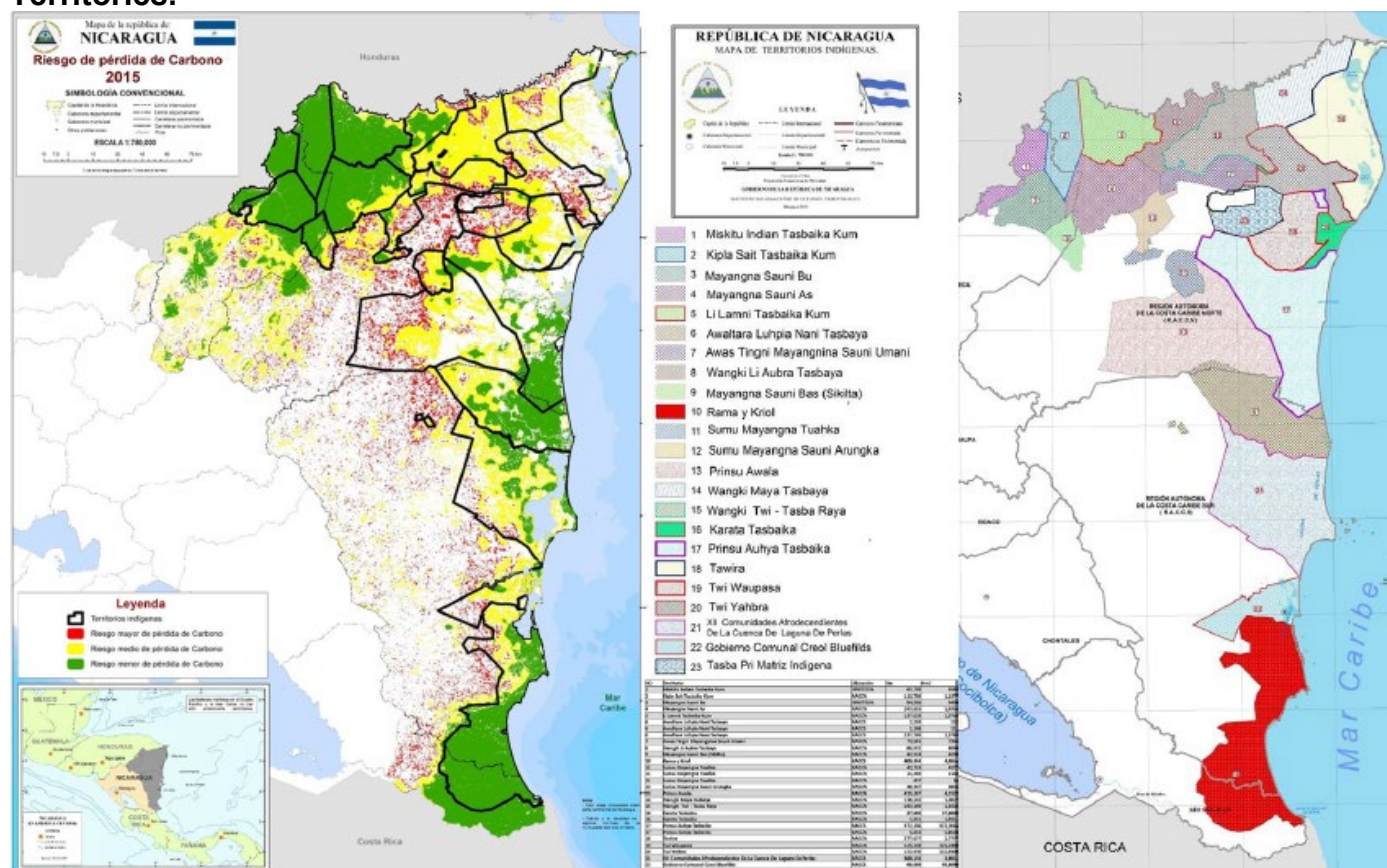
<sup>30</sup> Duriaux Chavarría JY, 2017. Cornell University Ornithology Lab 2017. Improving smallholder's livelihoods through reforestation around BOSAWAS Reserve, Nicaragua.

<sup>31</sup> Since 2018 Nicaragua is implementing the Second Land Administration Project "PRODEP II" with financial support of the World Bank (US\$ 18 M) precisely to solve land tenure conflicts which includes also parts of the Bio-CLIMA Project implementation region.

<sup>32</sup> The term "producer" is commonly used in Nicaragua as a synonym to "farmer"

with a minimum investment due to the absence of technical and market assistance, and financing mechanisms and products appropriate to the sector.

## Map 2-a: Risk of loss of forest carbon (left panel-red highest) and Communal Indigenous Territories.



## CLIMATE RATIONALE

19. Due to Nicaragua's geographic position the country is highly exposed to frequent climatic shocks produced by excessive precipitation (hurricanes and tropical depressions) and droughts of varying intensities, sometime associated with the El Niño Southern Oscillation (ENSO). Events that were declared natural disasters occurred in 1982, 1988, 1996, 1998, 2001, and 2014, primarily hurricanes and tropical storms that impact mostly the CR of Nicaragua, caused damage to infrastructure, displaced people from their homes, and produced losses to the agriculture sector. In 1998 Hurricane Mitch hit the CR of Nicaragua causing losses of US\$1.3 billion, of which US\$244.6 million was in the agriculture sector. Many of the 162,000 people who suffered significant damages from Hurricane Felix in 2007 have not yet recovered<sup>33</sup>. Most recently, in November 2016 Hurricane Otto hit the Río San Juan Biosphere damaging and defoliating severely 22% of the area.

20. Nicaragua is within the ten most vulnerable countries and ranks 6th in the Climate Risk Index rank from 182 countries<sup>34</sup>. Family farming is particularly vulnerable to climate risk: it encompasses most producers in number, land holdings, and agricultural production. Family agriculture incorporates 98 percent of all producers. In land area, family farming comprises 90 percent of agricultural land. In

<sup>33</sup> World Bank; CIAT. 2015. Climate-Smart Agriculture in Nicaragua. CSA Country Profiles for Africa, Asia, and Latin America and the Caribbean Series. Washington D.C.: The World Bank Group.

<sup>34</sup> Germanwatch. 2019. Global Climate Risk Index 2019, Available online at: <https://germanwatch.org/en/download/16411.pdf>.

agricultural production, their output value comprises 89 percent of the total. Their relevance for food security is unquestionable. Family farms contribute an estimated 60 percent of agricultural GDP from production of basic grains (maize, rice, beans, and sorghum) and livestock<sup>35</sup>. In 2001, one of the most severe droughts on record caused losses of US\$49.1 million, of which US\$41.4 was in agriculture<sup>36</sup>. Aridity is projected to rise between 10 and 25% in Central Nicaragua in the coming 20 years<sup>37</sup>. These climate anomalies affect farmers from the dry western and central region of Nicaragua severely, causing migration pressures to the CR impacting on indigenous territories, natural forests and ecosystems. Although the CR has a tropical rainforest climate with average rainfall above 2000mm/year, climate anomalies causing longer periods of draught, combined with reduced water regulation from deforested micro-catchments are increasingly affecting the resilience of vulnerable livelihoods in the Project Region.

21. Future climate scenarios<sup>38</sup> for the Caribbean Region forecast a temperature rise of 0.7 °C for the period 2010-2039, and increase in number of days where maximum temperature will surpass 35 °C. The rates of temperature increases are significantly higher in deforested areas, more than 50% higher than average temperature changes in tropical areas<sup>39</sup>. These changes will affect the suitability of the main crops that support rural livelihoods in the CR, especially livestock and coffee, increasing especially the vulnerability of poor families that depend on this cash-crops for daily subsistence. As projected temperatures will increase well above the current suitability range (18–28 °C) for coffee production Bio-CLIMA will support farmers and communities to adapt to the changing climate supporting the transition from coffee towards cocoa cultivation, as a promising alternative crop with higher heat tolerance within agroforestry systems<sup>40</sup>.

22. Rising temperatures will impact on the wellbeing and productivity of livestock, negatively impacting family farmers that depend on them to sustain their livelihoods. Bio-CLIMA shall promote the introductions of trees in Sustainable Silvo-pastoral Systems to provide shade and the regulation of water flows, improving the provision of ecosystem services to increase livelihood resilience of vulnerable family farmers and communities.

23. Finally, an increase of 10% in dry days in the Caribbean Region is predicted for the period 2010-2039, which will affect seasonal water availability for human populations and animals at micro-catchment level. Therefore the restoration and conservation of forest at farm level and landscape level will increase the resilience of ecosystem services to secure the wellbeing and the resilience of livelihood of the local population.

<sup>35</sup> Agriculture in Nicaragua: Performance, challenges and options. World Bank, IFAD, Cooperación Suiza. November 2015.

**Note:** The authors include in the concept of “family farming” all types of farms, only excluding the agro-industries.

<sup>36</sup> Agriculture in Nicaragua: Performance, challenges and options. World Bank, IFAD, Cooperación Suiza. November 2015.

<sup>37</sup> Aridity actual (annual mean 1981-2010) Time Period 2011-2040. Climate Information. <https://climateinformation.org>

<sup>38</sup> Atlas de Escenarios Climáticos de Nicaragua hasta el año 2080. INETER. 2017. Proyecto “Desarrollo de capacidad adaptativa para el Cambio Climático en el sector transporte”. Ministerio de Transporte e Infraestructura, 2015.

<sup>39</sup> Gourdj S; Läderach P; Martínez Valle A; Zelaya Martínez C; Lobell D. 2015. Historical climate trends, deforestation, and maize and bean yields in Nicaragua. *Agricultural and Forest Meteorology* 200:270–281.

<sup>40</sup> Läderach P; Martínez Valle A; Castro N. 2012. Predecir el impacto del cambio climático sobre las áreas de cultivo de cacao en Nicaragua. Managua: International Center for Tropical Agriculture (CIAT).

**B.2. Theory of change (max. 1000 words, approximately 2 pages plus diagram)**

24. Bio-CLIMA is programmatically embedded within the Theory of Change of the National REDD+ Strategy “ENDE REDD+<sup>41</sup>, for which the causes of deforestation and forest degradation, and the major barriers for REDD+ were thoroughly assessed during the Readiness Phase<sup>42</sup>.

25. It was determined, that the structural underlying causes for deforestation and forest degradation in the CR are the demographic pressures caused by droughts in the Pacific and Central Regions of Nicaragua, the expanding road system that have generated migration flows into the CR where “idle” forest-covered land has been abundant, poverty, insufficient and weak institutional capacities to enforce environmental, land planning and forestry laws. These factors combined with low land prices, undervaluation of standing forests, lack of access to technical and financial support and lack of access to responsible markets, have driven settlers to convert forests into extensive pastures, often encroaching into indigenous territories. The main direct vectors for the deforestation identified in the project area are extensive cattle farming and agriculture.

26. The Theory of Change of the ENDE REDD+ includes 37 action lines (AL) for REDD+ which are grouped under the following six pillars:

- Strengthening awareness-raising, education, communication and the fostering of values and information related to the protection of Mother Earth, considering the territorial identity and cosmo-vision of indigenous and Afro-descendant peoples (7 AL)
- Strengthening the national, regional and local coordination and building capacities of governments for the management of land use and natural resources, in accordance with the laws and policies on forests, environment, agriculture and energy (5 AL)
- Provide incentives for the protection, conservation and restoration of landscapes and biological corridors through afforestation, reforestation and natural regeneration in the Caribbean Coast region as well as the Pacific, Central and Northern regions (8 AL)
- Increasing sustainable and low-emission agro-forestry production, as well as the incomes of producers and number of jobs (7 AL)
- Encouraging investments and strengthening forestry and agricultural value chains with a focus on sustainable and low- emission markets, which value sustainability and reduced deforestation (6 AL)
- Strengthening climate change adaptation initiatives in territories of indigenous and afro-descendant peoples of the Caribbean Coast, the Pacific, Central and Northern regions (4 AL)

27. Bio-CLIMAs’ project activities are fully aligned and match the action lines that have been established by the ENDE REDD+ strategy which are relevant for the Project Region. Bio-CLIMA’s 42 activities can be clustered and summarized within the following 11 groups:

- Assist producers and indigenous communities to formulate LUMPs, TDPs with business plans: Activities 1.1.1.1 – 1.1.1.3
- Facilitate landscape restoration / forest conservation agreements between settlers and Indigenous Communities: Activity 1.1.1.4

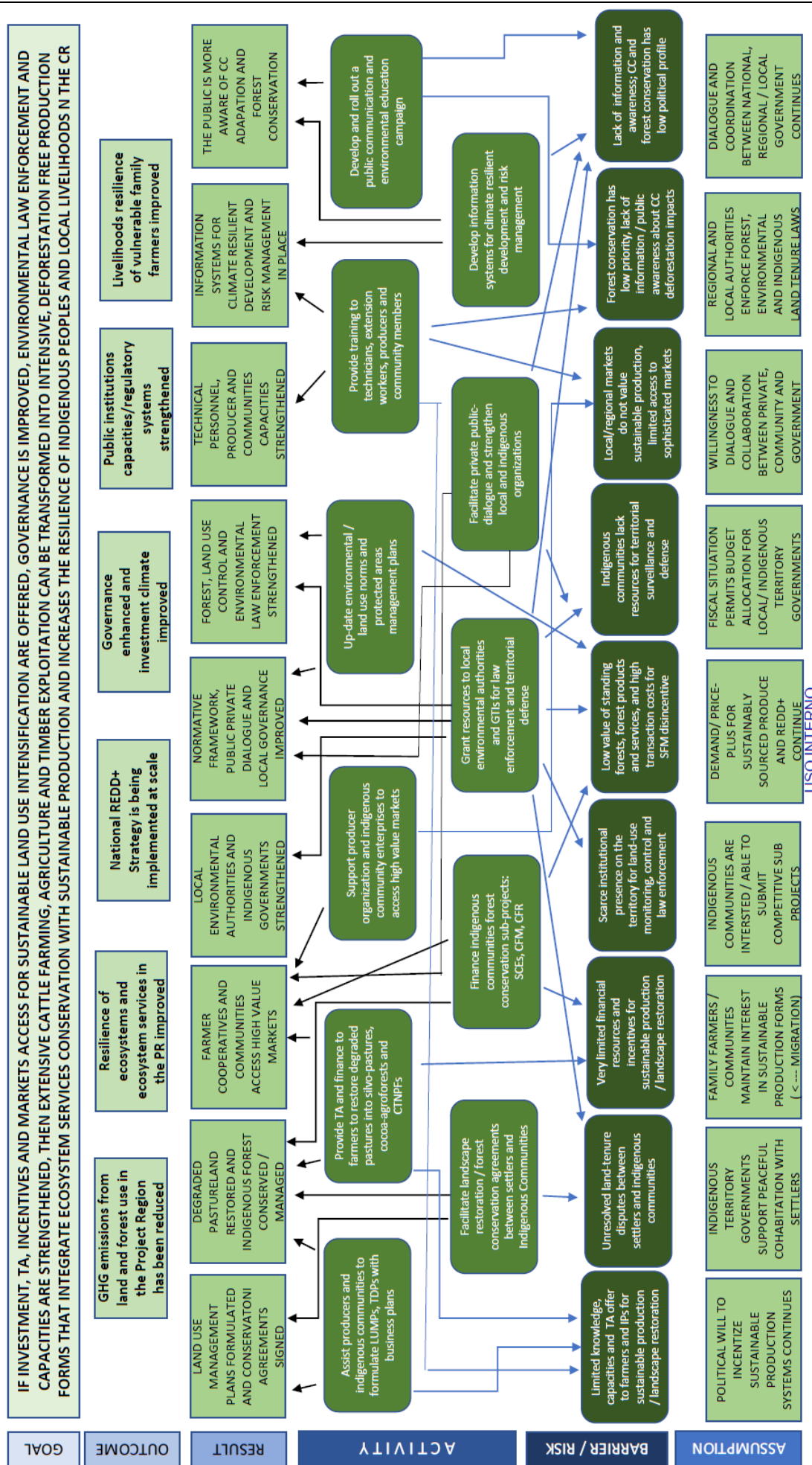
<sup>41</sup> Strategy to reduce emissions from deforestation and forest degradation. MARENA 2017. [http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/13.%20Estrategia%20Nacional%20ENDE%20\(English\).pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/13.%20Estrategia%20Nacional%20ENDE%20(English).pdf)

<sup>42</sup> Study of the causes of deforestation and forest degradation in Nicaragua. “The problem of forest carbon inventories and the strategic focus of the ENDE-REDD+ Program to attend these causes on a national level”. Project Support for Strategy Preparation for the Reduction of Emissions by Deforestation and Forest Degradation (ENDE-REDD+) MARENA 2017. 125 pp.) [http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/2.%20Estudio%20Causas%20Desforestaci%C3%B3n%20y%20Degradaci%C3%B3n%20Forestal%20\(English\).pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/2.%20Estudio%20Causas%20Desforestaci%C3%B3n%20y%20Degradaci%C3%B3n%20Forestal%20(English).pdf)

- Provide technical assistance and finance to farmers to restore degraded pastures into silvo-pastures, cocoa-agroforests and close-to-nature planted forests (CTNPFs): Activities 1.2.1.1 – 1.2.1.4
- Finance indigenous communities forest conservation, management and restoration sub-projects (SCEs, CFM, CFR): Activities 1.2.2.1 – 1.2.2.3
- Support producer organization and indigenous community enterprises to access high value markets: Activities 1.2.3.1 – 1.2.3.3
- Grant resources to local environmental authorities and Indigenous Territory Governments (GTIs) for forest law enforcement and territorial defense: Activities 2.1.1.1 – 2.1.1.3; 2.2.2.1 – 2.2.2.3
- Up-date environmental / land use norms and protected areas management plans: Activities 2.1.2.1 – 2.1.2.2
- Facilitate private public-dialogue and strengthen local and indigenous organizations: Activities 2.1.3.1 – 2.1.3.2; 2.2.1.1 – 2.2.1.3
- Provide training to technicians, extension workers, producers and community members: Activities 3.1.1.1 – 3.1.2.2
- Develop information systems for climate resilient development and risk management: Activities 3.2.1.1 – 3.2.1.7
- Develop and roll out a public communication and environmental education campaign: 3.3.3.1 and 3.3.3.2

28. As illustrated in the Theory of Change diagram below, these activities shall contribute to overcome the main barriers and risks for REDD+ that have been identified, and shall produce the 13 project outputs that have been summarized in the diagram, and the outcomes needed to significantly contribute to the Project objective of “Transforming extensive cattle farming, agriculture and timber exploitation into more intensive deforestation-free production forms that integrate ecosystem services conservation with sustainable production that increases the resilience of indigenous peoples and local livelihoods in the Caribbean Region of Nicaragua”.

29. Bio-CLIMA shall contribute to the achievement of GCF Impact Results M.4 “Reduced emissions from land use, deforestation, forest degradation and through sustainable management of forests and conservation and enhancement of forest carbon stocks”; and additional adaptation co-benefits under GCF Result Areas A.1 “Increased resilience and enhanced livelihoods of the most vulnerable people”, and A.4 “Improved resilience of ecosystems and ecosystem services, as can be seen from the summarized graph that illustrates the Paradigm Shift diagram presented on the following pages.



**Bio- CLIMA PARADIGM SHIFT**

Transform extensive cattle ranching, agriculture and timber exploitation that causes deforestation and forest degradation into sustainable, more intense, deforestation-free production forms that integrate ecosystem and ecosystem services conservation with production, in deforestation hot-spots of the Caribbean Region of Nicaragua.

**FUND LEVEL IMPACT RESULTS**

**M.4** Reduced emissions f. land use, deforestation, forest degradation and through sust. management of forests and conservation and enhancement of forest carbon stocks

**OUTCOMES**

**M.9** Improved management of land or forests areas contributing to emissions reductions (ha)

**OUTPUTS**

**C 1. Conserving and producing**

- (Number) of sustainable land-use management (LUMP) and territorial development (TDP) plans formulated (Area ha) of pastures and degraded land restored
- (Area ha) of natural forests conserved and restored
- (Number) of producer organizations and communities have access to high value markets

**C 2. Good governance**

- (Number) of environmental authorities of the Caribbean Region strengthened
- (Number) of public policies, instruments and tools updated
- (Number) of dialogue mechanisms and roundtables strengthened
- (Number) of producer organizations / associations created or strengthened
- (Number) of indigenous territories authorities / governance mechanisms strengthened
- Forest use and land use change control systems strengthened

**C 3. Adaptive capacity development**

- (Number) of technical personnel from extension services, local promoters and innovative producers (FIIT) trained
- (Number) of producers trained
- (Number) of control and monitoring systems strengthened and operative (incl.-LULUC-MRV-System, Timber Tracking, others)
- Communication strategy and education program implemented
- Public capacities for Project management, monitoring and evaluation strengthened

**ECONOMIC /PRODUCTIVE BARRIERS**

- Limited knowledge, capacities, financial resources, incentives and TA to invest in more intensive sustainable production methods by producers
- Local/regional markets do not recognize quality/sustainable production and limited access to more demanding/sophisticated markets
- Low value of standing forest, forest products and environmental services
- High transaction costs of environmental/forest law compliance disincentive SFM

**INSTITUTIONAL/CULTURAL BARRIERS**

- Forests/ecosystem conservation has low profile in sectoral plans and budgets
- Scarce institutional presence on the territory for land-use monitoring, control and law enforcement
- Insufficient coordination between government levels related to rural development
- Lack of information about impacts of CC, dissemination and public awareness

**PROBLEMS**

Annual deforestation in the Caribbean Region of Nicaragua between 2000 and 2015 was of 147,201 ha/yr, equivalent to emissions of 15.65 Mt CO<sub>2eq</sub>/yr. The main direct cause of deforestation is extensive livestock and agricultural production. The main direct causes for forest degradation, which is estimated to produce an additional 3.5 Mt CO<sub>2eq</sub>/yr is attributed to forest fires, firewood use and illegal logging. Landscapes get increasingly degraded and reduce the provision of environmental services and livelihood resilience to increasing climate anomalies. Natural capital and cultural heritage of indigenous and afrodescendant communities is being eroded, as unvaluable biodiversity is being lost.

**B.3. Project/programme description (max. 2000 words, approximately 4 pages)**

30. In the framework of National Program of Human Development, the National Climate Change Adaptation and Mitigation Policy, and the National REDD+ Strategy, Bio-CLIMA will contribute to the global objective of combatting climate change through the reduction of emissions caused by deforestation, forest degradation and livestock, as well as the enhancement of carbon stocks. Project actions will directly benefit the most vulnerable people of the CR supporting adaptation and reducing the negative effects climate change have on their livelihoods through improved resilience of ecosystems and ecosystem services.

31. Bio-CLIMA is embedded within the programmatic approach Nicaragua has chosen to implement the National REDD+ Strategy "ENDE-REDD+"<sup>43</sup>, which was formulated, broadly consulted and agreed upon during a long and intensive multi-sectoral dialogue process with the contribution of all relevant societal actors<sup>44</sup>. The preparation of the ENDE-REDD+ Strategy and its key elements, systems and policies had the technical and financial support of the World Bank through the FCPF Readiness Fund since 2011. This support which ends in June 2020, involved readiness organization and consultation, various assessments including drivers of deforestation and alternatives for REDD+, economic feasibility of Strategy implementation, incentive schemes; social and environmental safeguard assessment (SESA), framework and monitoring; FRELs, MRV capacity building, institutional strengthening, land tenure and other relevant studies. Bio-CLIMA builds on this important process and on all the relevant outputs of this REDD+ Readiness Phase.

32. To be able to advance from REDD+ Readiness to Strategy implementation, Nicaragua has decided to request GCF and GEF-7 grant finance, which together with substantive loans will be invested in order to unlock Result Based Payments that have been agreed upon within the Nicaragua's Emission Reduction Program (ER-P) for the Caribbean Region with the FCPF.

33. Bio-CLIMA's transformative vision to produce paradigmatic change shall be achieved through a three-pronged strategy of mutually reinforcing interventions organized within three project components:

- I.) Targeted investments for sustainable landscape restoration and natural resources management by providing communities and farmers with capacities, technical assistance, incentives and market access to improve their livelihoods while restoring ecosystems and ecosystem services, and conserving the natural resources on their farms and territories.
- II.) Support for an enabling environment for sustainable investment through strong and efficient institutions, tailored financial instruments and investment facilities, improved and transparent territorial governance with clear norms simple procedures, and enhanced land-use and environmental law enforcement.
- III.) Strengthen the capacities of technical personnel, farmers and community members in low-carbon production systems and the knowledge needed to promote local development adapted to climate change with supporting tools and instruments for monitoring and control, public awareness and environmental education.

34. **Component 1 Conserving and producing for life:** Bio-CLIMA's strongest investment will be put on the deforestation fronts where the risks of forest carbon and biodiversity loss are the highest: These are located on two core intervention areas: i.) Indigenous territories within the BOSAWAS Reserve, the *Indio Maíz* Biological Reserve, and their buffer zones and; ii.) In twelve indigenous territories with the highest risk of deforestation in the areas of Waspam and Prinzapolka (see Maps 1 - 3).

35. Sub-component 1.1 Land use and management planning for landscape restoration, forest conservation and climate-resilient production.

Output 1.1.1 Land use/management plans formulated; and restoration/conservation agreements signed/formalized with beneficiaries. Climate responsive land use and business planning at individual farm and community level shall be supported through the provision of technical support, as also facilitation and

<sup>43</sup> Strategy to reduce emissions from deforestation and forest degradation ENDE REDD+. MAREAN, June 2017.

[http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/13.%20Estrategia%20Nacional%20ENDE%20\(English\).pdf](http://www.marena.gob.ni/Enderedd/wp-content/uploads/Fases/13.%20Estrategia%20Nacional%20ENDE%20(English).pdf)

<sup>44</sup><http://www.marena.gob.ni/Enderedd/>

legal support to reach peaceful cohabitation and forest conservation agreements between indigenous communities and non-indigenous settlers.

Activity 1.1.1.1 Assist small producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).

Activity 1.1.1.2 Assist indigenous communities to formulate Territorial Development Plans (TDPs) including business plans (BPs).

Activity 1.1.1.3 Assist middle sized producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).

During the first two years, indigenous and non-indigenous family farmers, and indigenous communities and Indigenous Territorial Governments (GTI) will be supported with intensive technical assistance (TA) to undertake the land use and management planning of their farms, productive units and/or territories on which they sustain their livelihoods. The outputs of these participatory processes are Land Use Management Plans for individual families (LUMP), and Territorial Development Plans (TDP) for indigenous communities. Assistance will be provided to undertake the land use planning with sustainable investment and business plans (+sib) with the objective that productive landscape restoration and forest conservation is financially viable and sustainable. Agreements will ensure equitable participation of young and adult indigenous and non-indigenous women in decision-making, particularly access by women-headed households.

36. These two planning instruments will need to fulfill the following minimum requirements:

- Be formulated in a participatory manner to assure the inclusion of the knowledge, needs and perspectives of all, especially indigenous and non-indigenous male and female youth and adult women
- Identify, map and demarcate the production zones (agroforestry, silvo-pasture, crops, etc.) and separate them from the forest and watershed conservation, degraded landscape restoration and biological connectivity zones.
- Degraded land on soils with a slope steeper than 50% (26.6 degrees), which are prone to further degradation and soil erosion, are to be restored through Close-to-Nature-Planted Forests (CTNPF) and remnants of natural forest on the farm to be conserved.
- Include a technically viable business proposal based on a financially sound investment plan for the sustainable use of the land or the territory (+sib) that will contribute to the economic empowerment of indigenous and non-indigenous women.

37. Activity 1.1.1.4 Facilitate celebration and formalization of landscape restoration and forest conservation agreements. Non-indigenous families (so called “*terceros*”) that have settled within indigenous territories will be supported by the Project to legalize their land use and occupation through a “Peaceful Co-habitation Regime Agreement”<sup>45</sup> with the GTI only if following conditions are met, which are in alignment with the Benefit Sharing Plan of the ERPD<sup>46</sup>:

- The GTI has requested to begin the dialogue process to reach an agreement
- The family or community of settlers are small and medium size farmers that have used the land peacefully for at least five years.
- The family or community of settlers formally commits to comply with the land use plan and zoning of the LUMP and/or TDP, to conserve the natural forests and to undertake the agreed landscape restoration activities.
- The family or community of settlers will have to renounce any ownership claim to the land and explicitly recognize land ownership of the respective GTI. This cession will involve that any,

<sup>45</sup> Land tenure within the project region and the legal status of different actors within indigenous territories has been thoroughly assessed within the ESMF (Annex 6) based on the document “Evaluación sobre la tenencia de la tierra y los recursos naturales para la formulación del Proyecto de Reducción de Emisiones de la Costa Caribe, Reservas BOSAWAS e Indio Maíz”. MARENA 2017. The actual situation of settlement is the result of an array of different factors, including wars and resettlements forced by the armed conflict, which is described in detail in Matamoros Chávez E., Micropolíticas y redes de colonos en BOSAWAS, Agosto 2016

<sup>46</sup> Please see Benefit Sharing Plan in Annex 24, Section 2.2.1 (parag. 23, page 14) of the Benefit Sharing Plan of the ERPD (version July 2020) which has been undergone public consultation processes at regional and local level. Selection criteria will be further elaborated and refined through the Operational Manual.

present and future GHG Emission Reduction benefits or payments shall accrue to the GTI and be considered as a compensation for the right to use or rent the land.

38. Bio-CLIMA will benefit small and medium scale private producers and indigenous communities. Non-indigenous families living in peaceful cohabitation for at least five years in Indigenous Territories will be supported if they commit themselves to contribute to productive landscape restoration and forest conservation. In order to benefit from the TA and investments for the implementation of the productive landscape restoration and/or forest conservation models described in the next Project sub-component, beneficiaries will need to agree and sign landscape restoration and forest conservation agreements with the landowners (the Indigenous Territorial Government). These dialogue and agreement processes shall be facilitated by independent, specialized entities entrusted with this process that will be selected and overseen by MARENA as Executing Entity. To this Ends coordinated action and collaboration will be sought with the Property Institute of the Office of Attorney General of the Nation (*Procuraduría General de la República*) and its Second Land Administration Project (PRODEPII); as also with the Directorate for Alternative Conflict Resolution of the Supreme Court (DIRAC de la Corte Suprema de Justicia) which has worked in mediating in land tenure conflicts in the CR and are recognized by indigenous organizations.

39. Sub-component 1.2 Investments in landscape restoration, forest conservation and climate-resilient production. Only after the land use and management planning has been successfully concluded (LUMPs +sib, TDPs +sib), and conservation and/or peaceful cohabitation agreements have been signed, productive investments in productive landscape restoration and forest conservation will be supported through three productive landscape restoration models (Sustainable Silvo-pasture, Cocoa-Agroforestry and Close-to-Nature Planted Forests); and sub-project for three community forest conservation and restoration models (Sustainable Community Enterprises, Community Forest Management and Community Forest Restoration), that are described in detail further below. Support modalities shall be adapted to the beneficiary and community typology; and to the financial, social and environmental return of each individual business plan or community sub-project (see also paragraph 47) and shall be further refined in the Operational Manual. As beneficiaries are mainly family farmers and indigenous communities living in poverty, support shall be given mainly through grants, and eventually also through loans with a very high level of concessionality, linked mainly to social and environmental outcomes.

40. Output 1.2.1 Degraded pasture-and rangeland restored: Landscape restoration through cocoa-agroforestry, sustainable silvo-pastures and close-to-nature- planted forests will be promoted and financed by two specific Trust Funds<sup>47</sup>, in the South-western part of BOSAWAS, in the buffer and connectivity zone between BOSAWAS and the protected areas Cerro Saslaya, Cerro Cola Blanca and Cerro Banacruz. In the Indio Maíz Biological Reserve these interventions will be done only in the buffer zone as the category of Indio Maíz as a Biological Reserve does not permit productive uses as agroforestry or silvo-pasture within the protected area (in difference to BOSAWAS). In alignment and complementarity with the Benefit Sharing Plan for RBPs (Annex 24, Section 2.2, eligibility criteria for beneficiaries of these landscape restoration models include:

- Sustainable land management and business plan (LUMP+sib or TDP+sib) done
- Commitment to forest land restoration and to no further deforestation
- Legal Land Ownership; or Peaceful Cohabitation Agreement signed with the GTI
- Small / medium landowner with less than 50 ha of agricultural land (not including forest land)
- Location within Project intervention zones
- High potential for productive landscape restoration and biological connectivity
- Others to be further determined and / or refined within the Operational Manual

41. Activities 1.2.1.1 and 1.2.1.2 Small and medium producers restore degraded pastures into sustainable biodiverse silvo-pastoral systems (SSPS). It includes a) rotational grazing with electric fences;

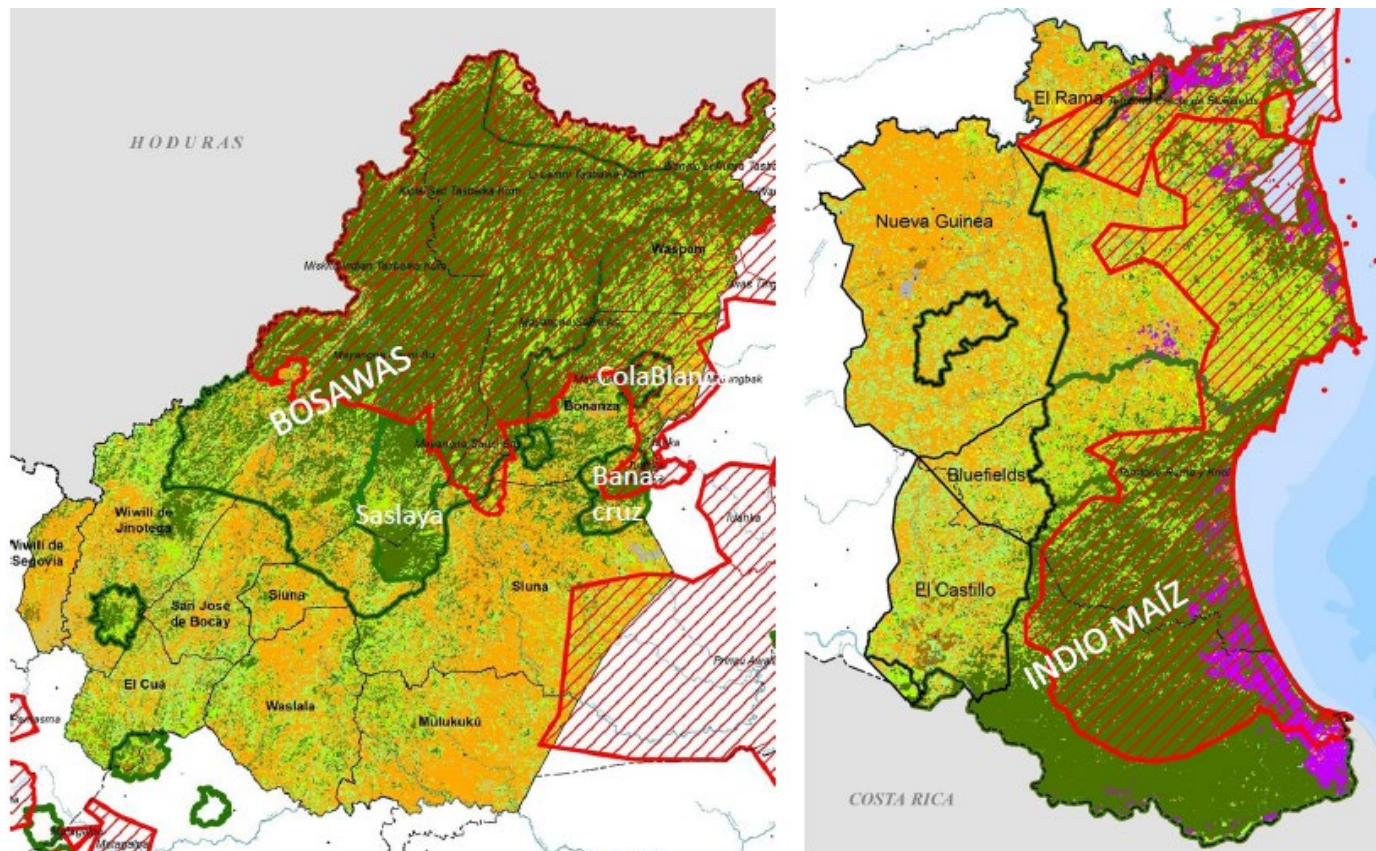
<sup>47</sup> These Trust Funds are described in detail in Section B.4.

b) Introduction of improved deep-rooting forages for pastures and cut-and-carry grasses with live fences consisting of protein producing shrubs. These practices, together with improved livestock management, improve productivity and reduce greenhouse emissions (11 MtCO<sub>2</sub>eq in 20 years<sup>48</sup>) - methane from enteric fermentation and nitrous oxide from manure. The provision and resilience of ecosystem services shall be improved through live tree fences and valuable tree species in pastures that shall provide shade and increasing animal welfare, recycle nutrients, reduce weed pressure, improve water availability, increase feed productivity, biodiversity and add economic value. Soil structure will be improved and stabilized, and the use of herbicide reduced. Animal stocking rate can almost be tripled from 1.2 to 3.2 LTU/ha, while carbon sequestration improves from 2.1 in BAU to 6 t CO<sub>2</sub>eq/ha/yr.

42. Bio-CLIMA will support indigenous and non-indigenous small farmers and medium sized farmers (< 50 ha / agricultural land) with TA, inputs to introduce (or expand existing) sustainable silvo-pastoral systems. Smaller farms (< 35 ha) will be supported to improve pastures up to 10 ha / farm, while medium sized farmers (> 35 ha) will be supported to reduce their pastureland from 40 to 30 ha per farm. In both cases the support will be aimed at improving stocking rates and productivity while restoring degraded land and expanding/conserving forest cover. The introduction of SSPS involve the combination of native tree species with improved forages that increase high quality feed availability, allow for soil restoration, increase resilience to extreme weather events (drought, excess rainfall), provide firewood and contribute to household food security. Apart from providing shade and animal feed, the trees provide additional income (which can be substantial) through the sale of timber and fruits. Because of the importance of livestock production, massive adoption can have a profound impact. The introduction of the SSPS involves the following measures: I.) The introduction (small farmers) or increase (medium farmers) of improved grasses that have higher nutritional value and are better adapted to drought and waterlogging, in combination with dispersed trees in well-managed pastures under rotational grazing, contributing to recovery of degraded soils, reduced soil erosion, water and biodiversity conservation. II.) The introduction (small farmers) or increase (medium farmers) of cut-and-carry grasses to increase general feed availability, especially during the drier months. III.) Protein banks, to increase nutritional quality of the ration. Shrub legumes' deep roots reduce erosion and optimize recycling of nutrients. IV.) Electric fences to facilitate rotation of cattle between pastures, to optimize the use of the biomass. V.) Live fences, to be planted around pastures, which also serve as protein banks.

<sup>48</sup> Assuming only 50% of the emission reduction target

**Map 2-b: BOSAWAS (left) and Indio Maíz (right): Protected area core zone (limits in dark green); land uses (colors), and indigenous territories (red lines). Orange color represents degraded pasture land; light-green shows re-growth and open forest land.**



43. Apart from improving livestock productivity, stabilizing the agricultural frontier and improving the resilience of rural livelihoods, these measures will also have a positive impact on greenhouse gas emissions. Although the figures in table 1 below show that GHG emissions of full SSPS can be reduced significantly if the SSPS is fully adopted at farm level, GHG calculations for the Bio-CLIMA project take a more conservative approach assuming that carbon sequestration can be improved from 2.1 in BAU to 6 t CO<sub>2</sub> eq/ha/yr. The adoption of these models on 12,144 ha in the Project region shall therefore reduce GHG of at least 1.1 MtCO<sub>2</sub> eq in 20 years<sup>49</sup>. As requested by the GCF no GCF finance will be invested in livestock activities.

<sup>49</sup> 50% emission reduction target

**Table 1 Environmental benefits of the introduction of sustainable silvo-pastoral systems (SSPS)**

	Small farms		Medium farms		1 ha
	BAU	SPS	BAU	SPS	Full SPS
Stocking rate (TLU/ha)	1.26	2.11	1.49	2.40	3.17
N-balance (kg/ha)	-21.60	-36.58	-25.24	-29.90	-53.03
water use (m3/kg milk)	2.34	0.92	1.31	0.74	0.60
water use (m3/kg meat)	18.93	10.60	21.79	13.01	6.50
GHG emissions (kg CO <sub>2</sub> e/kg milk)	9.69	4.51	5.22	3.91	3.67
GHG emissions (kg CO <sub>2</sub> e/kg meat)	78.33	51.85	87.05	68.44	39.82
GHG emissions (t CO <sub>2</sub> e/ha)	3.23	4.97	3.48	5.45	7.59
Carbon stock change (t CO <sub>2</sub> e/ha)	1.14	8.92	1.14	6.26	23.90
Balance GHG emissions - C-stock change (tCO <sub>2</sub> e /ha)	2.09	-3.95	2.34	-0.81	-16.30

44. Activity 1.2.1.3 Producers restore degraded pastures into biodiverse cocoa agroforestry systems (CAS). Indigenous and non-indigenous small family farmers will be provided with technical assistance and inputs (grants) to establish up to 2 ha of CAS, which consists in restoring degraded pasture or rangeland or old orchards with a density of 1734 trees/ha, including 816 cocoa trees, 816 banana plants, 51 forest trees, and 51 of other fruit trees. Of especial relevance is the introduction of improved cocoa varieties more adapted to the projected climate conditions, more resistant to pest and diseases, with higher productivity and high organoleptic quality. These in combination with banana, fruit trees, native timber tree species and annual crops create a biodiverse agroforestry system that will sequester more carbon, regulate the micro-climate via shade production, protect soil and water sources, enhance family asset due to timber tree species, ensure food security with crop diversification increasing the livelihood resilience of the most vulnerable rural people and communities. Overall, integrative management of CAS will improve social, economic, and environmental sustainability. While yield increases from BAU are estimated to be 3.5 times higher from year 3 onwards, earnings from fermented cocoa beans sold to international exporters that source this improved cocoa in the region like the companies Ritter Sport and Ingelmann can rise 5 to 10 times in relation with the traditionally dried, “red” cocoa that are sold to local retailers<sup>50</sup>. Carbon sequestration rises from 2.1 in BAU situation to 11.2 tCO<sub>2</sub> eq/ha/yr in the improved cocoa agroforest.

45. Activity 1.2.1.4 Reforest degraded land on slopes >50% into biodiverse, Close-to-nature Planted Forests (CTNPF)<sup>51</sup>: Sustainable intensification of agricultural and livestock practices and LUMP will leave part of the farm area, especially the one located on slopes steeper than 50% and/or alongside water courses idle. These idle lands get covered quickly by natural regrowth, shrubs and pioneer vegetation (“*tacotales*”) within a process of natural succession that eventually will lead to the formation of a secondary forest. Project incentives and TA will support farmers to learn and apply simple silvicultural techniques, establish and manage community nurseries, and undertake enrichment plantings with high-biodiversity value native tree species to accelerate the natural succession and landscape restoration process in such areas. The resulting CTNPF will not only provide a wide array of ecosystem goods and

<sup>50</sup> Bio-CLIMA will support family farmers and communities to tap into the enormous market potential that sustainable agroforestry cocoa farming offers to local producers: The market description and analysis can be found in the Feasibility Study

<sup>51</sup> Close-to-nature Planted Forests (CTNPF) are established with more than one tree species, often native, adapted to the site and its ecological conditions. These forests are often vertically structured in more than one layer and may be uneven aged. They provide a wide range of products and environmental services and have a higher resilience to external disturbances (Kanowski, 1997, in FAO 2009).<sup>51</sup>

increase the resilience of ecosystem services, but also an important intergenerational asset of high value timber for the family that can be sustainably managed and selectively harvested in the future. Carbon sequestration increases from 6 (BAU: *tacotal* to secondary forest), to 25.3 tCO<sub>2</sub> eq/ha/yr in CTNPFs.

46. While the main objective of the implementation of the three models above, at farm and community level, is to stabilize the agricultural frontier to reduce deforestation and improve local livelihoods, their mitigation impact in this zone has been estimated to be 5.4 MtCO<sub>2</sub> eq<sup>52</sup> in 20 years.

47. Output 1.2.2 Natural forest ecosystems and forest land conserved, restored and sustainably used. Indigenous and afro-descendant communities located within the Indigenous Territories of the CR of Nicaragua (Map 2-b) will be called to present proposals to conserve and sustainably use forest ecosystems and natural forest lands on an area that covers nearly a million hectares (Table 2 b). It is foreseen that for more than half of this huge territory (541,826 ha) indigenous and afro-descendant communities will prepare funding proposals (sub-projects) to undergo a competitive selection processes that will be managed through investment facilities (Result Based Payments Trust Funds and National Sectoral Funds, incl. Forestry Development and Environmental Fund) and their governing bodies (inter-institutional committees). As the Project will support the communities to prepare these sub-projects together will well-structured business plans (see also Activities 1.1.1.2; 3.1.2.2), the grant/loan ratio and counterpart requirement will have to be decided individually by sub-project in accordance with selection criteria described in paragraph 51, and procedures to be further specified in the Operational Manual. Depending on their location respective to protected areas, the legal status and their protection category, these sub-projects are divided in three broad categories: Sustainable Community Enterprises, Community Forest Management, and Community Forest Restoration sub-projects.

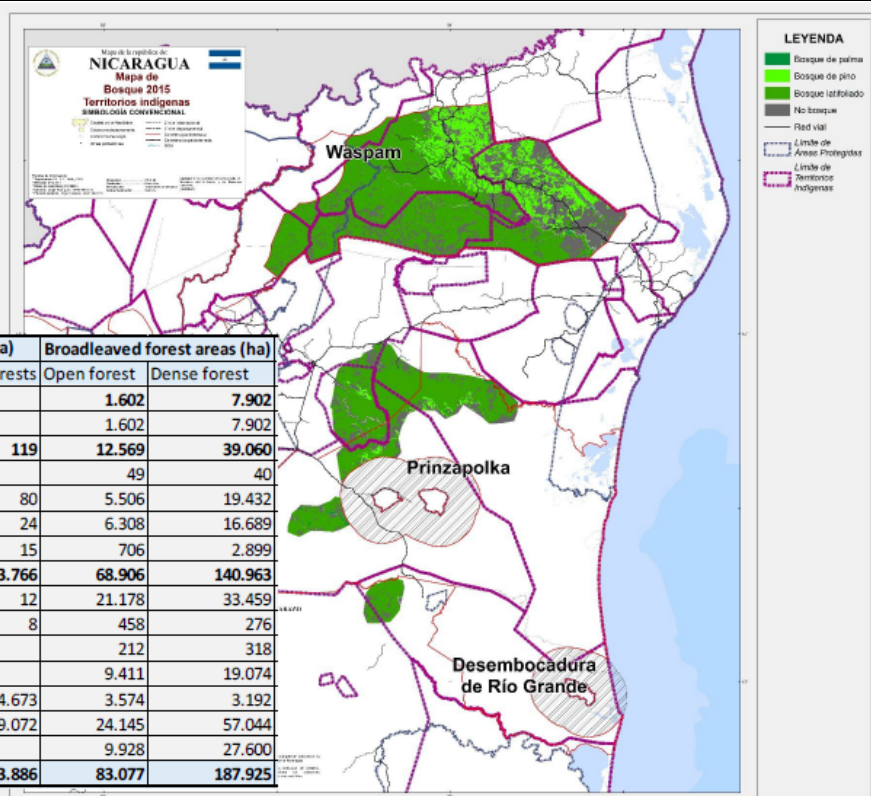
48. Activity 1.2.2.1 Finance Sustainable Community Enterprises (SCEs) in indigenous territories. This activity will be located within the core and buffer zones of BOSAWAS and Indio Maíz protected areas where forest cover is conserved. In accordance with the Management Plan of the protected area and according to the TDP indigenous communities will be assisted to prepare and submit sub-projects, called “Sustainable Community Enterprises (SCEs)” to be co-financed by the project through grants or through concessional loans, depending on SCE nature and its social, environmental and financial return on investment. To be considered for support SCEs will have to include a business and investment plan (“+bin”) to assure their technical, social, environmental and financial and market feasibility. SCE+bin’s will need to promote the wellbeing and livelihood resilience of the communities through forest and biodiversity conservation. Each SCE and “+bin” will need to have a gender action plan (GAP) that conforms with the overall Project GAP. These sub-projects could include ecological and ethnic tourism activities, handicrafts, goldsmith and indigenous jewelry, fine wood artisan making and fine wood products, non-timber forest products, resins and medicinal substances and/or other productive community enterprises. These sub-projects will be supported on a competitive basis with an average estimated financial contribution of US\$ 54,000 per sub-project, but the level of financial support shall be tailored to each project depending on the merits and needs guided on criteria and ceilings to be further defined in the Operational Manual. On these basis and the assumption that each SCE supports the protection of at least 3,000 ha of natural forests, it is estimated that Bio-CLIMA will be able to co-finance 95 SCEs benefitting 9,487 people of the indigenous territories of Miskitu Indian Tasbaika Kum (1), Kipla Sait Tasbaika Kum (2), Mayagna Sauni Bu (3), Mayagna Sauni As (4), Li Lamni Tasbaika Kum within BOSAWAS, and Rama and Kriol (10) in Indio Maíz (see Map 2-a); and have a mitigation impact of 8.9 Mt CO<sub>2</sub> eq<sup>53</sup> in 20 years.

49. Activities 1.2.2.2 and 1.2.2.3 Finance Community Forest Management (CFM) and Community Forest Restoration (CFR) sub-projects in indigenous territories outside protected areas. These activities will be located in natural forest areas in high risk of deforestation located within 12 indigenous territories in the Waspam and Prinzapolka that total approximately 318,000 ha and have the potential to be sustainably managed for commercial timber production and restoration/reforestation. Forest management to be done by the indigenous communities on these territories will also be supported to achieve group certification (see Activity 1.2.3.3) in order to comply with highest environmental and social standards for sustainable management of natural forests.

<sup>52</sup> 50% emission reduction target

<sup>53</sup> 50% emission reduction target

**Map 3: Community forest management (dark green) and forest restoration (light green) areas located in 12 indigenous territories outside protected areas in the Waspam and Prinzapolka zones**



50. Similar to the SCEs, the Community Forest Management (CFM) and the Community Forest Restoration (CFR) sub-projects will have to be prepared and presented by the communities to the FONADEFO with viable technical and financial support documentation in order to compete for funding. CFM sub-project may finance the design, approval and implementation of forest management plans, low-impact selective tree cutting and hauling, local timber processing and added value of timber forest products. CFR sub-project may include activities needed for the productive restoration of forest landscapes like the harvesting of seed, the establishment of local nurseries, promotion of the natural regeneration of regrowth of successional forest and natural regeneration, enrichment plantings and other related activities. Each CFM and CFR will need to have a gender action plan (GAP) that conforms with the overall GAP. It is estimated that 262 sub-projects will be co-financed by Bio-CLIMA, and that these sub-projects should contribute to the sustainable management or restoration of an area of approximately 800 ha/per project, resulting in 78,185 ha of sustainably managed natural forest and 131,608 ha of restored/reforested open forest land. It is estimated these activities will benefit 1311 vulnerable people and have a mitigation impact of 5.5 Mt CO<sub>2</sub> eq in 20 years<sup>54</sup>.

51. In alignment and complementarity with the Benefit Sharing Plan (see Annex 24) the Funds will publish calls for proposals to submit SCE, CFM and CFR sub-projects which will have to apply for funding on a competitive basis. Selection criteria for these three modalities of sub-project proposals that will be developed and implemented by the communities (SCEs, CFM and CFR) will include:

- Formulated by an indigenous or afro-descendant community located within the implementation region of (as to maps 2 and 3)
- Provide a significant contribution to sustainable livelihoods within the community
- Include participatory mechanisms to ensure the knowledge, needs and individual and collective rights of male and female youth and adult women in their design, implementation, monitoring and evaluation are taken into account
- Contribute to intercultural gender equality and women's economic empowerment through both access to financing and other resources and generation of tangible and measurable benefits.

<sup>54</sup> 50% reduction emission target

- Contribute to emissions reduction and/or carbon sequestration
- Contribute to ecosystem services and biodiversity conservation
- Make reasonable technical proposals, have sound financial indicators
- Make a contribution to strengthen the capacities and entrepreneurship within the community
- Private sector co-finance and participation will be positively valued for project evaluation

52. Output 1.2.3 Farmer cooperatives, producer organizations and community enterprises access high-value markets. In order to grant the financial sustainability, market access and social inclusion of all the productive landscape restoration and forest conservation models, but especially to communities that are granted financial support through SCE's, CFM and CFR sub-projects described above, the activities included in this output will strive to provide support to mixed-gender and men- or women-only producer organizations, women's groups, cooperatives and community enterprises to access high value markets on fair-trade basis, training in added value and marketing, strengthening of entrepreneurial capacities, facilitation of business contacts, the participation in fairs and commercial exchange events. Bio-CLIMA will also support producers in obtaining organic and/or fair-trade certification labels for their products, as group certification of sustainable forest management of timber and non-timber products. The latter will be reinforced by investment and capacity development to enforce forest law and support to combat illegal logging (Activities 2.2.2.1, 2.2.2.3 and 3.2.1.2).

Activity 1.2.3.1 Cooperatives, producer organizations and indigenous community (SCEs and CRMR) will be supported to reach high-value markets. Training, expert support and coaching will be provided to support farmer cooperatives, producer organizations and indigenous communities to improve the quality, to add value to and enhance the merchandising of their products and services in order to reach and sell to high-value markets, and promote women's empowerment and intercultural gender equality.

Activity 1.2.3.2 Targeted business contacts between producer organizations and indigenous communities' enterprises with high value markets shall be facilitated. This will be done by supporting the participation of producer and indigenous community organizations in national and international fairs, business events and through the facilitation of commercial exchanges, in collaboration with the corporate private sector already active in Nicaragua (Ritter Sport). Indigenous and non-indigenous male and female youth and adult women will equitably participate in and benefit from these opportunities, including by receiving training and translation/interpretation if needed.

Activity 1.2.3.3 Producer organizations and community enterprises shall be supported to obtain international certification for the products and services they offer. Support to get fair-trade, sustainable forest management and similar international certification will be provided during the first years of the project. This will require equitable participation and decision-making processes; resources and benefits will be distributed equitably among indigenous and non-indigenous men and women.

## **Component 2: Good Governance.**

53. Subcomponent 2.1 Regional natural resources governance strengthened. More than 10.29% of Bio-CLIMAs' budget will be invested to create an enabling environment for investment for natural resources management and conservation in the CR that would offer clear and simple norms, efficient local institutions and transparent governance schemes. Through this project component, public environmental institutions in the CR will be provided with new and additional technical personnel, equipment and operative capacities to support climate responsive land use planning and environmental/forest law enforcement. Likewise, more public budget will be assigned to the local institutions and the 23 Indigenous Territory Governments (GTIs) of the CR to support their own efforts to improve the oversight and control of their territories, which covers an area of 1.7 million hectares. These state and institutional building activities will be financed mainly by the public debt from CABI, and not through GCF resources (see Table 8).

54. Support shall be provided to analyze and update forestry, environmental and land-use normative framework at national level, regional and local level, as also to update the management plans

of the two protected areas BOSAWAS and Indio Maíz. While Nicaragua's legislation, norms and instruments for Sustainable Rural Development are solid Land-use Planning (LUMPs), instruments need to be put in place to make sure that multi-sectoral development interventions accrue into an integrated, sustainable development approach at farm, landscape and ecosystem level. Also, forest and protected areas legislation will need to be updated and normative gaps to be filled to promote sustainable management, conservation and harvesting of natural forests at small-scale. Bio-CLIMA will provide expert support, facilitate the dialogue between different sectors and actors and promote public participation to facilitate these exchanges through discussion fora, workshops and other mechanisms, with the objective that the rules of the game for sustainable land planning and use are clear and simple to understand for farmers and communities, including being translated into local languages, and forthrightly administered, monitored and enforced by public officials. For such a fundamental change, policy and legal innovation must be constructed and socialized in a broad and participatory manner.

55. Bio-CLIMA will facilitate and promote societal dialogue involving all relevant local actors and institutions, producer organizations, indigenous peoples, communities and academia, which shall also foster social control and transparency. Complementarily, Bio-CLIMA will facilitate public-private dialogue processes involving all relevant actors and the private sector to create the investment facilities (Trust Funds) needed, through which the majority of project funding will be channeled to promote and bring to scale the sustainable landscape restoration and forest conservation models described in Component 1.

56. Undue competition by illegal logging and deforestation will have to be addressed through efficient and effective law enforcement: the Government will invest important resources to guarantee that forest, land use and environmental regulations are duly complied with and that infringements are duly sanctioned: inter-institutional illegal logging and forest fire control patrols that will be strengthened by Bio-CLIMA which will operate with the participation of indigenous communities. All these interventions aim to create the enabling regulatory and governance environment, paving the way to transform extensive and destructive land use-forms into sustainable, climate resilient practices, targeting especially small vulnerable farmers and households on the deforestation fronts.

57. Output 2.1.1 Environmental authorities present at the regional and local levels, including municipalities and Indigenous Territorial Governments strengthened. These institutions will be strengthened through the credit component of the Project to make sure enough financial resources are available to equip the local offices of the environmental authorities with legal competencies at the regional, local and protected areas level (including MARENA, INAFOR, SERENA, municipalities and Indigenous Territorial Governments). Nowadays these institutions are severely understaffed and do not have the minimum resources to undertake their mandatory duties of regulation and oversight of such a vast territory like the CR of Nicaragua. Adequate financial resources shall be allocated through the public budget to these institutions for operational expenditure (fuel, vehicle maintenance, stationery, etc.). These expenses shall be completely financed through CABEL loan.

Activity 2.1.1.1 Hire new technical, extension and control personnel to work in the project area and indigenous territories. New and additional technical, extension and control personnel will be hired to work in the project area, protected areas, indigenous territories and local offices of the environmental authorities with legal competencies at the regional, local and protected areas level (including MARENA, INAFOR, SERENA, municipalities and Indigenous Territorial Governments) in order to undertake their mandatory duties of regulation, oversight and territorial defense of such a vast territory like the CR of Nicaragua. Priority will be placed on hiring indigenous and local personnel and an equitable proportion of women and men, and, if possible, who speak at least two local languages.

Activity 2.1.1.2 Procure material, equipment and vehicles for regional and local institutions. Regional and local environmental authorities shall be provided with necessary material, equipment and vehicles in order to be able to undertake their statutory duties according to their mandate.

Activity 2.1.1.3 Grant public budget for operational expenses to regional/local environmental authorities, including Indigenous Territorial Governments. Public budget for operational expenses to regional/local environmental authorities, including Indigenous Territorial Governments will be granted. This includes also to grant enough financial resources through the public budget that is allocated to these institutions for operational expenditure (fuel, vehicle maintenance, stationery, etc.).

58. Output 2.1.2 Legal and normative framework updated. Expert support to analyze normative gaps and needs for up-dating of norms and procedures (including, operation norms of National Forest Fund and National Fund of the Environment, Forest Law and Norms on sustainable commercial use of timber and non-timber forest products within protected areas and its buffer zones, among others) will be provided, presented and discussed in a participatory manner through workshops and facilitation, involving all relevant stakeholders, in order to produce drafts to be enacted by relevant authorities. To grant for a participatory planning of these innovations, the management plans of BOSAWAS Natural Reserve and Indio Maíz Biological Reserve will also have to be updated. Expert support will be provided to up-date these management plans, including ecological, social and geospatial studies, as well as participatory processes involving all stakeholders within and around protected areas, especially the indigenous communities and Indigenous Territorial Governments. These will use equitable participatory processes with adult and young women and men of the different territories and promote intercultural gender equality and women's empowerment.

Activity 2.1.2.1 Analyze and update forestry, environmental and land-use normative framework at national level; and Activity 2.1.2.2 Support regional / local environmental authorities to actualize the normative framework. Expert support to analyze normative gaps and needs for up-dating of norms and procedures (e.g. FAN, FONADEFO and Trust Funds operation, sustainable commercial use of timber and non-timber forest products within protected areas and its buffer zones, among others) will be provided, presented and discussed in a participatory manner through workshops and facilitation, involving all relevant male and female stakeholders from relevant territories and promote intercultural gender equality and women's empowerment, in order to produce drafts to be enacted by relevant authorities.

Activity 2.1.2.3 Update the management plans of the two protected areas: BOSAWAS and Indio Maíz. Expert support will be provided to update these management plans, including ecological, social and geospatial studies, as well as participatory processes involving all male and female stakeholders within and around protected areas, especially the indigenous communities and Indigenous Territorial Governments, and promote livelihood resilience, intercultural gender equality and women's empowerment.

59. Output 2.1.3 Public-private dialogue and cooperation strengthened. Activities will include support to the Ministry of Family and Rural Economy (MEFCCA), to MARENA and partner institutions to convene relevant public, private and community actors to improve the climate for sustainable investment opportunities between the private sector and indigenous communities and farmer cooperatives. This public-private dialogue shall result in cooperation agreements to establish and manage sectoral investment facilities to strengthen the SPCC in the CR through three specific Trust Funds: i.) the Result Based Payment, ii.) the Silvo-pastoral and; iii.) the Cocoa-Agroforest Trust Funds. These shall be settled by the MHCP, but administered as an autonomous worth entrusted and managed by a private financial institution, as described in detail in Section B.4. To this end, expert, legal and facilitation support will be provided to involve relevant public, community and private actors in the governance and oversight mechanisms of this funds. Dialogue will also be sought to improve the law enforcement and control system with community and private participation. These mechanisms will promote intercultural gender equality and there will be equitable participation of men and women from indigenous and non-indigenous groups.

Activity 2.1.3.1 Facilitate sectoral public-private dialogue at regional and local level. Expert and facilitation support will be provided to support MEFCCA and partner institutions to convene relevant public, private and community actors to improve the climate for sustainable investment opportunities between the private sector and indigenous communities and farmer cooperatives. Dialogue will also be sought to improve the law enforcement and control system with community and private participation.

Activity 2.1.3.2 Strengthen the Production, Consumption and Marketing System (SPCC) at regional level. Long term sectoral investment facilities will be created to strengthen the SPCC in the CR through three Trust Funds: The Result Based Payment, the Silvo-pastoral and the Cocoa-Agroforest Trust Funds that will be administered by a private financial service provider. To this end, expert, legal and facilitation support will be provided to involve relevant public, community and private actors in the governance and oversight mechanisms of these Funds to grant for efficient and transparent use of resources.

60. Sub-component 2.2 Local organization, territorial oversight and law enforcement strengthened.

Output 2.2.1 Territorial governments and local organizations strengthened. Indigenous Territorial Governments and local producer organizations will be strengthened.

Activity 2.2.1.1 Provide institutional strengthening to Indigenous Territorial Governments (GTIs). All 23 GTIs will be provided with organizational, legal and administrative support in order to improve their ability to exercise the territorial authority the law entitles them to. Participatory institutional diagnose and analysis will be done to identify needs and demands for each one of the GTIs in order to provide targeted organizational support through training, expert support, workshops and other activities. Special care will be taken on including and empowering young women and men and adult women in community decision making processes and integrating mechanisms that promote intercultural gender equality and women's participation and decision-making.

While Activity 2.2.1.1 above will benefit all 23 GTIs in the Caribbean Region, the following two Activities 2.2.1.2 and 2.2.1.3 will focus only on producer organizations, farmer cooperatives and indigenous community enterprises located within the two core Project Intervention Areas for Component 1, which are the following: i.) Indigenous territories within the BOSAWAS Reserve, the *Indio Maíz* Biological Reserve, and their buffer zones and; ii.) In twelve indigenous territories with the highest risk of deforestation in the areas of Waspam and Prinzapolka (see also Maps 1 - 3).

Activity 2.2.1.2 Provide organizational support to local producer organizations (indigenous and non-indigenous). Local producer organizations will be provided with organizational support to improve their governance and oversight mechanisms, their administrative and financial procedures, quality enhancement of their products and services, bankability and others. For this, expert support will be provided for diagnosis and for participatory organizational improvement processes, including workshops, exchange visits and similar. These organizational improvements will promote intercultural gender equality and women's participation.

Activity 2.2.1.3 Provide legal support to legalize producer organizations, cooperatives and indigenous community enterprises. Targeted legal support will be provided to local producer organizations, cooperative and community enterprises to get and/or up-date their legal status as a formal statutory organization in order to allow them to sign contracts, interact in commercial and financial transaction and be able to acquire credit.

61. Output 2.2.2 Forest, land-use and land use change administration, control and environmental law enforcement strengthened. The activities that are needed to produce this output include to operate mobile units and fixed control posts to control timber transport; to operate deforestation control and forest fire prevention brigades and to support Indigenous Territory Governments to operate indigenous people territorial defense and resources control brigades. For all these expert and intelligence support, equipment, vehicles and operational expenses will be covered to operate mobile control units and fixed control posts to control timber transports, deforestation and forest fire prevention brigades, as also to operate indigenous people territorial defense and resources control brigades in indigenous communities within the Caribbean Region.

Activity 2.2.2.1 Operate mobile units and fixed control posts to control timber transport.

Activity 2.2.2.2 Operate deforestation control and forest fire prevention brigades.

Activity 2.2.2.3 Operate indigenous people territorial defense and resources control brigades.

62. **Component 3 Capacity development for productive landscape restoration and forest conservation.** Subcomponent 3.1 Capacity development through training. To move towards an integrated and sustainable farm, landscape and ecosystem approach that Bio-CLIMA strives to promote, a significant training and capacity-building effort will need to be undertaken: Technical personnel from public extension services, farmers and beneficiaries will be trained in integrated, climate responsive land use management and planning (TDPs, LUMPs), implementation and maintenance of productive landscape and ecosystem services restoration modules, investment and business planning ("+in"), innovations in administrative processes, legislation and norms, strengthening of local organizations, quality management and market access among others.

63. Output 3.1.1 Technical personnel, extension workers and promoters trained. Technical personnel, extension workers and promoters from environmental authorities and public extension services present at the regional and local level will be trained in the use and implementation of the new land and territory climate responsive planning instruments (LUMP-b and the TDP-s), legal and normative framework and Productive Landscape Restoration Models that will be introduced by the Project. Special attention will be given not only in the technical content, but in methodologies, including Innovation and Research Farms, Farmer Field Schools, in order to train these trainers. Emphasis will be given also to participatory use and business planning approaches, holistic farm, landscape and ecosystem planning, improving the resilience of ecosystem and ecosystem services including biological connectivity and biodiversity conservation, and intercultural gender equality and the project's gender action plan (GAP).

Activity 3.1.1.1 Train technicians and extension workers in participatory land use planning (LUMP-b, TDPs-b)

Activity 3.1.1.2 Train stakeholders to use the updated sectoral legal and normative framework

Activity 3.1.1.3 Train technicians and extension workers to implement Productive Landscape Restoration / Forest Conservation Models

64. Output 3.1.2 Producers and members of organizations/communities trained. The Project will strive to provide organizational, management, financial and marketing training to producers and members of organizations/communities. Producers will be trained in LUMP, TDP and Productive Landscape Restoration / Forest Conservation Models: Farmers, producers and members of organizations (indigenous and non-indigenous) will be trained in the use and implementation of the new climate responsive land and territory planning and natural resources conservation instruments (LUMPs, "bis" and the TDPs), legal and normative framework and Productive Landscape Restoration Models that will be introduced by the Project. These training will involve training session, workshops, exchange visits to Innovation and Research Farms and Farmer Field Schools and other appropriate methodologies.

Activity 3.1.2.1 Provide organizational, management, financial and marketing training to producers and members of organizations/communities. Capacity building will integrate intercultural gender equality and implementing the gender action plan (GAP), among others. Budget and other resources will be allocated to facilitate indigenous and non-indigenous women's participation in training events.

Activity 3.1.2.2 Train producers in LUMP, TDP and Productive Landscape Restoration / Forest Conservation Models

65. Subcomponent 3.2 Development of tools and instruments.

Output 3.2.1 Information systems for climate resilient sustainable development and risk management are in place. Information systems, tools and instruments for climate responsive land use planning and monitoring and to respond to climate change and variability will be put in place.

Activity 3.2.1.1 Set up a deforestation and forest fires early-warning system (SAT) for the CR

This SAT should build on systems already developed and tested. Expert support and training will be provided to make sure that the diverse remote sensing tools and instruments publicly available are known by relevant institutions, chosen and used and put into practice by regional and local environmental authorities and stakeholders in the CR.

Activity 3.2.1.2 Up-date and roll out the forest products administration and control system a forest products administration and control system.

Simplified norms for forest use and administration will be streamlined into a user-friendly informatics forest administration and control system. This will have to be designed, adjusted and run by national, regional and public offices in charge of forest administration, control and oversight. Expert support, software, equipment and training will have to be provided.

Activity 3.2.1.3 Monitor LULUC, deforestation and forest degradation.

MARENAS REDD+ Units' operation will be supported to be able to continue undertaking the LULUC, deforestation and forest degradation monitoring activities. The project will support through provision of technical support, consultant honoraria and workshop expenses.

Activity 3.2.1.4 Install and monitor permanent plots of the National Forest Inventory (NFI) in the CR.

The Project will support the installation and permanent monitoring of plots within Nicaragua's Second National Forest Inventory (NFI) which will involve not only forest cover and socio-economic variables, but

also climate change, biodiversity and other new variables. This encompasses 70 plots that will be financed by the Bio-CLIMA project in the Caribbean Region.

Activity 3.2.1.5 Monitor biodiversity indicator species in 10% of plots of the NFI in the CR.

Support will be provided to monitor biodiversity indicator species in the CR for which expert support, training and methodological assistance and operational expenses.

Activity 3.2.1.6 Monitor climate change adaptation, mitigation and biodiversity impact of implemented productive landscape restoration/forest conservation models.

INETER and the regional environmental authorities to improve their capacities to monitor the impact of the land use planning instruments and models introduced by the Project on climate change adaptation, mitigation and biodiversity conservation in the CR.

Activity 3.2.1.7 Monitor climate, hydro-meteorological (including tropical storms, hurricanes, droughts) and pest risk phenomena in order to inform and emit alerts.

Expert support, training, methodological assistance and operational expenses will be provided to INETER and IPSA in partnership with the regional environmental authorities to be in capacity to monitor climate, hydro-meteorological phenomena and pest risk, to inform the public and emit alert bulletins.

#### 66. Subcomponent 3.3 Development of public awareness.

Output 3.3.1 The Public is more aware of the need for climate change adaptation, mitigation, landscape restoration and forest conservation. The very high ambition to shift the prevailing development paradigm, which is based on extensive natural resources and landscape exploitation, towards climate smart, sustainable development can only be achieved if very deep cultural and behavioral transformation of attitudes and values within the society is achieved. A great effort will be done, and significant resources invested to inform and create awareness at regional and local level, farmers and communities and to the general public in general. This will be done through a permanent and efficient public communication strategy and a specifically designed and targeted education program for local schools and universities.

Activity 3.3.3.1 Develop and roll-out a public communication strategy. A public communication strategy will be developed and rolled-out, while a very intensive environmental education program in local schools and communities will be carried out. This will emphasize indigenous knowledge, needs and rights regarding conserving and restoring biodiversity and will promote intercultural gender equality. The relevant outputs will be pluri-lingual and will be developed using participatory methods.

Activity 3.3.3.2 Undertake environmental education in local schools and communities. Expert support to update the environmental curricula of the public-school system will be provided. Training of trainers (teachers) will be financed to include environmental education and relevant climate change mitigation/adaptation and biodiversity conservation into their curricula. Environmental curricula in schools of the CR include biodiversity and climate issues and number of education events successfully held. Curricula will reflect indigenous and non-indigenous knowledge, needs and rights and will promote intercultural gender equality.

67. Bio-CLIMAs' activities are complementary and mutually reinforcing and contribute to the achievement of GCF Impact Result Area M.4 "Reduced emissions from land use, deforestation, forest degradation and through sustainable management of forests and conservation and enhancement of forest carbon stocks (12.80 Mt CO<sub>2eq</sub>)<sup>55</sup> in 7 years of project implementation; with adaption co-benefits on Result Areas A1 "Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions" (51,000 direct beneficiaries, vulnerable indigenous and family farmers living in poverty) and A.4 "Improved resilience of ecosystems and ecosystem services (coverage/scale 2.32 million ha of ecosystems protected), benefitting approximately 615 thousand people in the Caribbean Region. The huge change that Bio-CLIMA strives to produce in the CR is summarized in Table 2 b: approximately half of degraded land area in the project region will be restored (61,209 of 122,610 ha) and same proportion of natural forest in the project area sustainably managed, conserved and restored (541,826 / 979,955 ha). The total area impacted by Bio-CLIMA has an extension of 2,319,359 ha, which is equivalent in area to Belize. This project area covers a third of the Caribbean Region of Nicaragua, which has an extension equivalent to the sum of the territories of Belgium and the Netherlands.

<sup>55</sup> 50% emission reduction target

68. Through the credit component of Bio-CLIMA, the Government of Nicaragua will invest substantial financial resources to strengthen regional public institutions and the 23 Indigenous Territory Governments of the Caribbean and the Alto Wangki y Bocay Regions. Promotion of sustainable land-use and forest management, planning and monitoring; local territorial governance as also environmental and forest law enforcement urgently need additional capacities and resources, which currently are scarcely present in the Region. The relevant public institutions in charge of environmental protection, forest conservation and sustainable, climate adapted agricultural production will be provided with technical assistance, logistical means, vehicles, information technologies, equipment and operational costs. The improvement of forest governance on the total forest area impacted by Bio-CLIMA in the 23 Indigenous Territories (1,716,325 ha) together with the restoration and conservation investments described in Component 1 is expected to reduce GHG emissions of 47.3 MtCO<sub>2</sub> in 20 years in a conservative scenario of reaching only 50% of the emission reduction target (see also Table 8). BIO CLIMA comprehensive intervention strategy is designed to go beyond a one-off project: its climate resilient production models have been field tested and assessed and have the potential to be replicated in other municipalities within the Region. The trust funds to be set up with Project support through activity 2.1.3.2 provides sustainability and scale, and an important investment in additional technical capacities and strengthened institutions will serve to replicate and expand the project approach. The Project will showcase a comprehensive integrated approach and intervention at the farm, landscape and ecosystem level. Project interventions aim to create the enabling regulatory and governance environment, paving the way to transform extensive and destructive land use-forms into sustainable, climate resilient practices, targeting especially small vulnerable farmers and households on the deforestation frontier.

**Table 2 a:** Eligibility criteria

Project Activity <sup>56</sup>	Eligibility criteria
1.1.1.1 Assist small producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).	<ul style="list-style-type: none"> <li>- Indigenous, afro descendant, and non-indigenous/afro descendant family farmers with a total farm size of less than 35 ha</li> <li>- Located in BOSAWAS core and buffer zones; and in Indio Maíz Buffer Zone as to Map 2-b</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> <li>- Interested in landscape restoration with sustainable silvo-pastures, and/or cocoa agroforestry, combined with forest restoration and conservation systems on their farms</li> </ul>
1.1.1.2 Assist indigenous communities to formulate Territorial Development Plans (TDPs) including business plans (BPs).	<ul style="list-style-type: none"> <li>- Only indigenous and afro descendant communities (not individual families)</li> <li>- Located in demarcated indigenous and afro descendant territories in BOSAWAS, Indio Maíz (Map 2-b), and the community forest areas of Waspam and Prinzapolka (Map 3)</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> <li>- Interested in landscape restoration with sustainable silvo-pastures, and/or cocoa agroforestry; and/or forest restoration and conservation systems, initiatives and sub-projects in their community</li> </ul>
1.1.1.3 Assist middle sized producers to	<ul style="list-style-type: none"> <li>- Indigenous, afro descendant and non-indigenous middle sized producers / family farmers</li> </ul>

<sup>56</sup> Eligibility criteria have been included for applicable activities but not for institutions, for example. Please refer to the detailed description of these activities along this section.

<p>formulate Land Use-Management Plans (LUMPs) with business plans (BPs).</p>	<ul style="list-style-type: none"> <li>- Total farm size between 35 and 50 ha</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> <li>- Interested in landscape restoration with sustainable silvo-pastures, and/or cocoa agroforestry, combined with forest restoration and conservation systems on their farms</li> </ul>
<p>1.1.1.4 Facilitate celebration and formalization of landscape restoration and forest conservation agreements.</p>	<ul style="list-style-type: none"> <li>- Indigenous, afro descendant communities and non-indigenous/afro descendant AND small and middle sized family farmers, or community of settlers ("terceros"); which are located within indigenous and afro descendant territories in BOSAWAS, Indio Maíz (Map 2-b), and the community forest areas of Waslala and Prinzapolka (Map 3)</li> <li>- The GTI has requested to begin the dialogue process to reach a landscape restoration and forest conservation agreement</li> <li>- The settler family is interested in landscape restoration with sustainable silvo-pastures, and/or cocoa agroforestry, combined with forest restoration and conservation systems on their farm</li> <li>- To benefit from this activity, the family or community of settlers will have to: <ul style="list-style-type: none"> <li>o Have used the land peacefully for at least five years</li> <li>o Commit to comply with the land use plan and zoning of the LUMP and/or TDP, to conserve the natural forests and to undertake the agreed landscape restoration activities</li> <li>o Renounce to any ownership claim to the land and explicitly recognize land ownership of the respective GTI</li> <li>o Agree that this cession involves that any benefits or payments generated by GHG Emission Reduction on the farm shall accrue to the GTI to be considered as a compensation for the right to use / rent the land.</li> </ul> </li> </ul>
<p>1.2.1.1 Small producers (farm size &lt; 35 ha) restore degraded pastures into climate resilient, biodiverse sustainable silvo-pastoral systems.</p>	<ul style="list-style-type: none"> <li>- Indigenous, afro descendant, as well as non-indigenous/afro descendant family farmers with a total farm size of less than 35 ha interested in restore degraded pastureland with up to 10 ha of sustainable silvo-pastures</li> <li>- Located in BOSAWAS core and buffer zones; and in Indio Maíz Buffer Zone as to Map 2-b</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> <li>- Commitment to comply with the LUMP/TDB+sib, specifically to restore degraded land on soils with a slope steeper than 50% (26.6 degrees) with Close-to-Nature-Planted Forests (CTNPF) and conserve remnants of natural forest on the farm</li> </ul>
<p>1.2.1.2 Middle sized producers (farm size &gt; 35 ha) restore degraded pastures into biodiverse silvo-pastoral systems.</p>	<ul style="list-style-type: none"> <li>- Indigenous, afro descendant, as well as non-indigenous/afro descendant family farmers with a total farm size between 35 and 50 ha interested in reduce their traditional pastureland by 10 ha and converted them into sustainable silvo-pastures</li> <li>- Located in BOSAWAS core and buffer zones; and in Indio Maíz Buffer Zone as to Map 2-b</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> </ul>

		<ul style="list-style-type: none"> <li>- Commitment to comply with the LUMP/TDB+sib, specifically to restore degraded land on soils with a slope steeper than 50% (26.6 degrees) with Close-to-Nature-Planted Forests (CTNPF) and conserve remnants of natural forest on the farm</li> </ul>
1.2.1.3	Producers restore degraded pastures into biodiverse cocoa agroforest systems.	<ul style="list-style-type: none"> <li>- Indigenous, afro descendant, as well as non-indigenous/afro descendant family farmers with a total farm size of less than 35 ha interested in restore degraded pastureland with up to 2 ha of sustainable biodiverse cocoa agroforestry systems</li> <li>- Located in BOSAWAS core and buffer zones; and in Indio Maíz Buffer Zone as to Map 2-b</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> <li>- Commitment to comply with the LUMP/TDB+sib, specifically to restore degraded land on soils with a slope steeper than 50% (26.6 degrees) with Close-to-Nature-Planted Forests (CTNPF) and conserve remnants of natural forest on the farm</li> </ul>
1.2.1.4	Reforest degraded land on slopes (> 50%) into biodiverse, Close to Nature Planted Forests (CTNPFs).	<ul style="list-style-type: none"> <li>- (same as 1.2.1.1 to 1.2.1.3 above)</li> </ul>
1.2.2.1	Finance Sustainable Community Enterprises (SCE) in indigenous territories within protected areas for natural forest ecosystems conservation and use.	<ul style="list-style-type: none"> <li>- Formulated by indigenous and afro descendant communities only (not by individual families) that are located in demarcated indigenous and afro descendant territories within BOSAWAS and Indio Maíz Protected Area Core Zones (Map 2-b)</li> <li>- Provide a significant contribution to sustainable livelihoods within the community</li> <li>- Include participatory mechanisms to ensure the knowledge, needs and individual and collective rights of male and female youth and adult women in their design, implementation, monitoring and evaluation are taken into account</li> <li>- Contribute to intercultural gender equality and women's economic empowerment through both access to financing and other resources and generation of tangible and measurable benefits.</li> <li>- Contribute to emissions reduction and/or carbon sequestration, ecosystem and biodiversity conservation</li> <li>- Make reasonable technical proposals, have sound financial indicators</li> <li>- Make a contribution to strengthen the capacities and entrepreneurship within the community, private sector co-finance and participation will be positively valued for sub-project evaluation</li> <li>- Commitment to comply with the TDB+sib, specifically to restore degraded land on soils with a slope steeper than 50% (26.6 degrees) with Close-to-Nature-Planted Forests (CTNPF) and to conserve the natural forest of the indigenous territory</li> </ul>
1.2.2.2	Finance commercial Community	<ul style="list-style-type: none"> <li>- Formulated by indigenous and afro descendant communities only (not individual families) that are located in demarcated indigenous</li> </ul>

<p>Forest Management (CFM) sub-projects with business plans prepared by indigenous communities outside protected areas.</p>	
<p>1.2.2.3 Finance commercial Community Forest Restoration (CFR) sub-projects with business plans prepared by indigenous communities outside protected areas.</p>	<p>and afro descendant territories within the Community Forest Management and Restoration Zone (Map 3)</p> <ul style="list-style-type: none"> <li>- Provide a significant contribution to sustainable livelihoods within the community</li> <li>- Include participatory mechanisms to ensure the knowledge, needs and individual and collective rights of male and female youth and adult women in their design, implementation, monitoring and evaluation are taken into account</li> <li>- Contribute to intercultural gender equality and women's economic empowerment through both access to financing and other resources and generation of tangible and measurable benefits.</li> <li>- Contribute to emissions reduction and/or carbon sequestration, ecosystem and biodiversity conservation</li> <li>- Make reasonable technical proposals, have sound financial indicators</li> <li>- Make a contribution to strengthen the capacities and entrepreneurship within the community, private sector co-finance and participation will be positively valued for sub-project evaluation</li> <li>- Commitment to comply with the TDB+sib, specifically to restore degraded land on soils with a slope steeper than 50% (26.6 degrees) with Close-to-Nature-Planted Forests (CTNPF), and to conserve and sustainably manage the natural forest in the indigenous territory</li> </ul>
<p>1.2.3.1 Support cooperatives, producer organizations and indigenous community (SCEs and CRMR) to reach high-value markets.</p>	<ul style="list-style-type: none"> <li>- Cooperatives, producer and indigenous community organizations that aggregate Project beneficiaries from the activities 1.2.1.1 to 1.2.2.3, that are located within the Project interventions zones of the BOSASWAS and Indio Maíz protected areas core and buffer zones, and (Map 2-b) as also in the Community Forest Management and Restoration Zone (Map 3)</li> </ul>
<p>1.2.3.2 Facilitate targeted business contacts between producer organizations and indigenous communities' enterprises with high value markets.</p>	<ul style="list-style-type: none"> <li>- Organization has the objective to provide a significant contribution to sustainable livelihoods</li> <li>- Include participatory mechanisms to ensure the knowledge, needs and individual and collective rights of male and female youth and adult women are taken into account</li> <li>- Contribute to intercultural gender equality and women's economic empowerment through both access to financing and other resources and generation of tangible and measurable benefits</li> </ul>
<p>1.2.3.3 Support producer organizations and community enterprises in voluntary certification processes.</p>	<ul style="list-style-type: none"> <li>- Make a contribution to strengthen the capacities and entrepreneurship within the organization, private sector co-finance and participation will be positively valued.</li> </ul>
<p>2.2.1.1 Provide institutional strengthening to Indigenous Territorial Governments (GTIs).</p>	<ul style="list-style-type: none"> <li>- All 23 Indigenous Territorial Government shall be strengthened, therefore no eligibility criteria applies, but the Free, Prior and Informed Consent of the Community to benefit from this Project Activity</li> </ul>

2.2.1.2	Provide organizational support to local producer organizations (indigenous and non-indigenous).	- Cooperatives, producer and indigenous community organizations that aggregate Project beneficiaries from the activities 1.2.1.1 to 1.2.2.3 above that are located within the Project interventions zones of the BOSASWAS and Indio Maíz protected areas core and buffer zones, and (Map 2-b) as also in the Community Forest Management and Restoration Zone (Map 3)
2.2.1.3	Provide legal support to legalize producer organizations, cooperatives and community enterprises.	- Include participatory mechanisms to ensure the knowledge, needs and individual and collective rights of male and female youth and adult women are taken into account - Contribute to intercultural gender equality and women's economic empowerment through both access to financing and other resources and generation of tangible and measurable benefits - Make a contribution to strengthen the capacities and entrepreneurship within the organization.
2.2.2.1	Operate mobile units and fixed control posts to control timber transport.	- Public institutions at the national, regional and local level ( including GTIs) that are strategically located within the Project interventions zones of the BOSASWAS and Indio Maíz protected areas core and buffer zones, and (Map 2-b) as also in the Community Forest Management and Restoration Zone (Map 3) - Institutions and actors with a clear legal mandate to undertake control and law enforcement activities. - Participation of the local community in control and oversight schemes to grant transparency and accountability.
2.2.2.2	Operate deforestation control and forest fire prevention brigades.	
2.2.2.3	Operate indigenous people territorial defense and resources control brigades.	
3.1.1.1	Train technicians and extensionists in participatory land use planning (LUMP-b, TDPs-b).	- Members of public institutions and non-governmental institutions at the national, regional and local level ( including GTIs) that are located and act in the areas of influence of the Project interventions zones of the BOSASWAS and Indio Maíz protected areas core and buffer zones, and (Map 2-b) as also in the Community Forest Management and Restoration Zone (Map 3) - Members of institutions and actors with a mandate to undertake training and extension activities in the areas of sustainable agriculture and forest conservation and management - Individuals who speak at least two local languages will be prioritized, and gender equality sought
3.1.1.2	Train stakeholders to use the up-dated sectoral legal and normative framework.	
3.1.1.3	Train technicians and extension workers to implement Productive Landscape Restoration / Forest Conservation Models.	
3.1.2.1	Provide organizational, management, financial and marketing training	- Indigenous, afro descendant, and non-indigenous/afro descendant family farmers with a total farm size of less than 50 ha

to producers and members of organizations/communities.	<ul style="list-style-type: none"> <li>- Located in BOSAWAS core and buffer zones; and in Indio Maíz Buffer Zone as to Map 2-b</li> <li>- Willingness to include the knowledge, needs and perspectives of all, male and female youth, and adult women</li> <li>- Interested in landscape restoration with sustainable silvo-pastures, and/or cocoa agroforestry, combined with forest restoration and conservation systems on their farms and communities</li> </ul>
3.1.2.2 Train producers in LUMP, TDP and Productive Landscape Restoration / Forest Conservation Models.	

**Table 2 b:** Area covered, farms and beneficiaries impacted by Bio-CLIMA's interventions

Landscape restoration /forest conservation models	Area impacted (ha) /potential area <sup>57</sup>	Productive units <sup>58</sup>	Direct beneficiaries	Disaggregation	
				Female	Male
<b>Output 1.2.1 Degraded pasture-and rangeland restored</b>	<b>61,209</b> /122,610	<b>8,060</b>	<b>40,302</b>	<b>20,554</b>	<b>19,748</b>
<i>Cocoa Agroforestry - Systems</i>	<b>8,850</b> /14,048	4,425	22,126	11,284	10,842
<i>Sustainable Silvopastoral Systems</i>	<b>12,144</b> /61,593	2,429	12,144	6,193	5,950
<i>Close to Nature Planted Forest</i>	<b>40,215</b> /46,969	1,206	6,032	3,076	2,956
<b>Output 1.2.2 Natural forest ecosystems and forest land conserved</b>	<b>541,826</b> /979,955	<b>357</b>	<b>10,798</b>	<b>5,507</b>	<b>5,291</b>
<i>Sustainable Community Enterprises</i>	<b>332,033</b> /554,096	95	9,487	4,838	4,648
<i>Community Forest Management and Restoration Sub-Projects</i>	<b>209,793</b> /425,859	262	1,311	669	642
<b>Sub-total</b>	<b>603,035</b> /1,102,565	<b>8,417</b>	<b>51,100</b>	<b>26,061</b>	<b>25,039</b>
<b>Components 2 and 3: Forest area benefitted from improved governance and law enforcement</b>	<b>1,716,325</b>				
<b>Total area impacted by Bio-Clima</b>	<b>2,319,359</b> /7,023,700				
<b>Indirect beneficiaries (number)</b>			<b>614,721</b>	<b>307,684</b>	<b>307,037</b>

<sup>57</sup> Note: Implementation area of the landscape restoration and forest conservation models / total potential area in the selected project region. The forest area benefitted from improved forest governance is put in relation with the total area of the Caribbean Region.

<sup>58</sup> Productive Units refers to the number of individual farms or community territories to directly benefit from Project activities and investments, specifically Sub-component 1.1 and 1.2

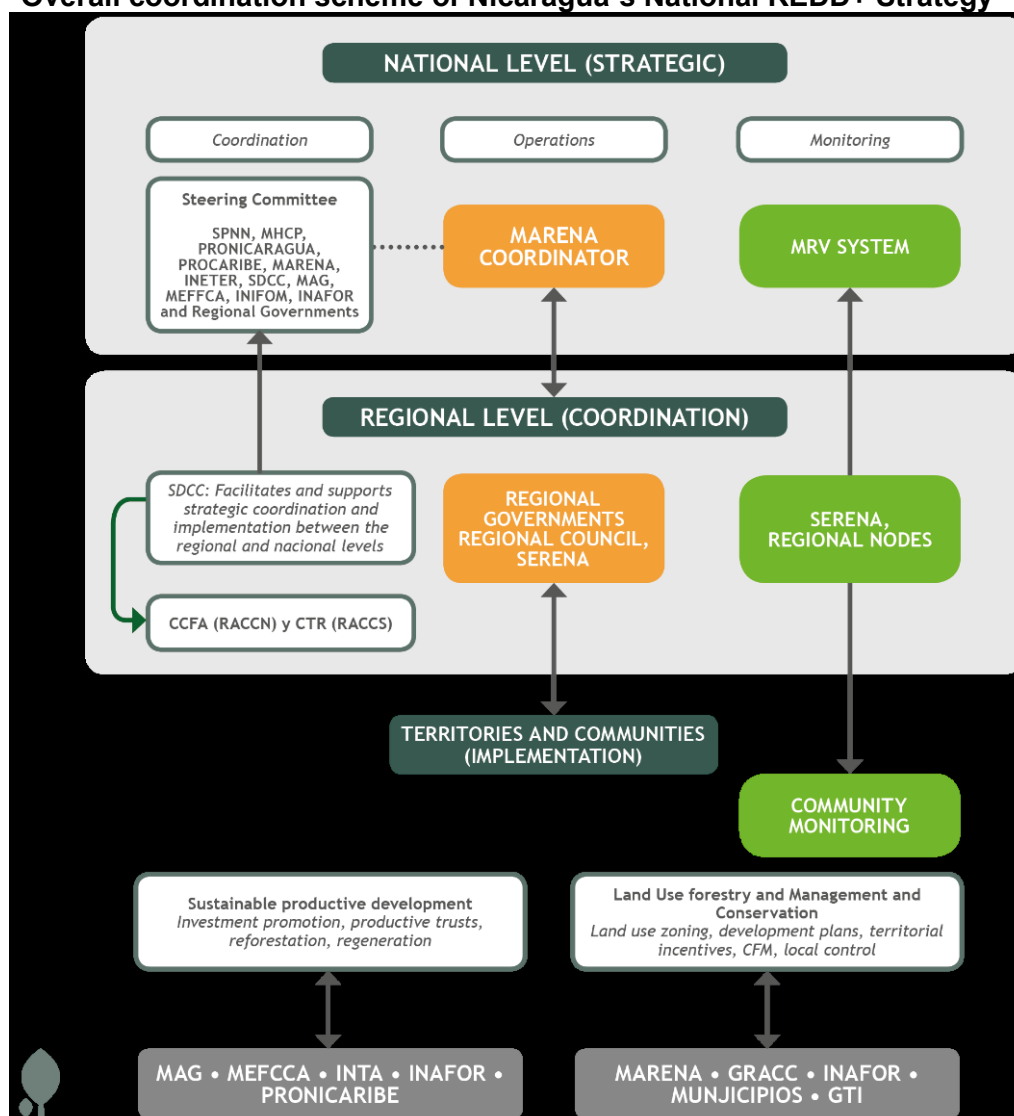
**B.4. Implementation arrangements (max. 1500 words, approximately 3 pages plus diagrams)**

**OVERALL COORDINATION SCHEME OF THE NATIONAL REDD+ STRATEGY**

69. As Bio-CLIMA and Nicaragua's Emissions Reduction Program (ERP) are fully complementary and will act synergistically within a programmatic approach in the implementation of the National REDD+ Strategy, both will operate under the same institutional coordination architecture, which is structured hierarchically at three levels: a national strategic level, a regional coordination level, and a technical implementation level locally. The National Level provides for strategic guidance and inter-institutional coordination through a National Steering Committee, coordinated by the MARENA, in which the relevant sectoral institutions in charge of sectoral policy setting and programming will participate, including INAFOR, INTA, MEFFCA, INTUR, INETER; and the MHCP, which is the NDA to the GCF.

70. The coordination with the Regional Governments (RG) and entities, and with the Indigenous Territorial Governments within the Steering Committee is facilitated by the Secretariat for the Development of the Caribbean Coast (SDCC), which assures that national, regional and territorial interests are duly balanced. Regional Governments support MARENA with coordination, monitoring and evaluation, together with the regional delegations in the CR of sectorial national entities. The Indigenous Territory Governments (GTI) support Strategy implementation within their territories at territory and community levels.

**Figure 1:**  
**Overall coordination scheme of Nicaragua's National REDD+ Strategy**

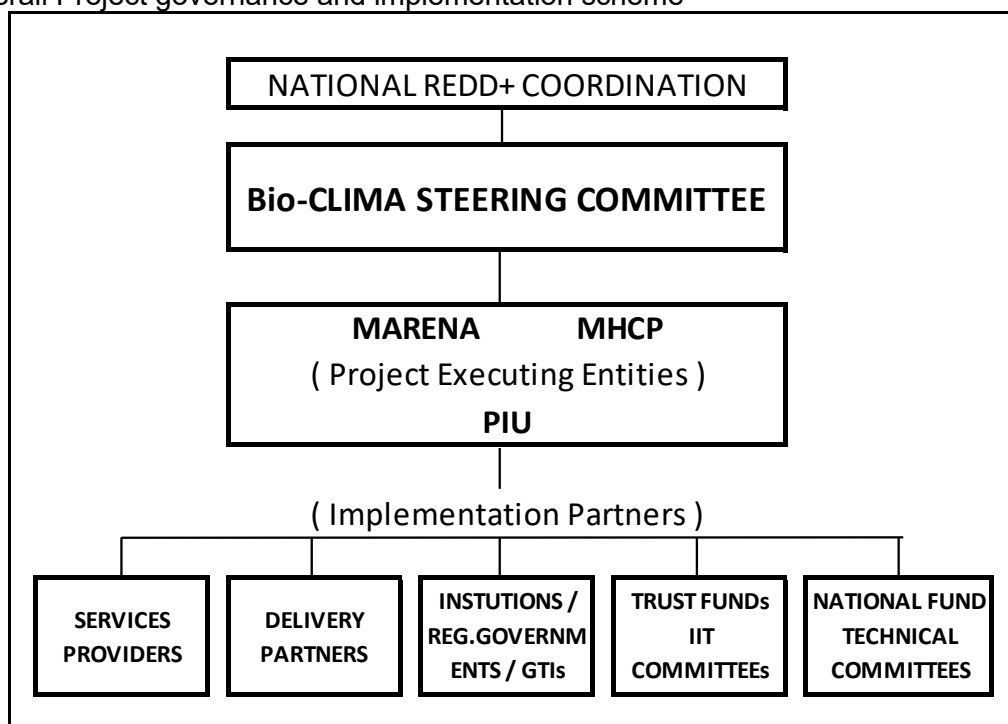


(Source: Caribbean Coast Emissions Reduction Program, MARENA 2019)

## Bio-CLIMAs PROJECT GOVERNANCE AND INSTITUTIONAL ARRANGEMENTS

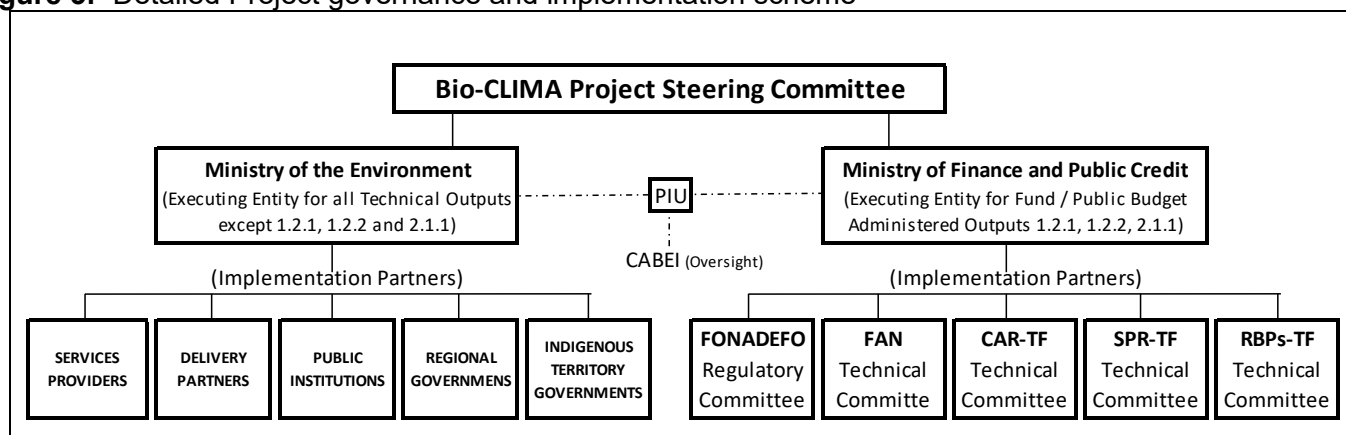
71. Bio-CLIMA shall be governed by a multi-sectoral Project Steering Committee (PSC) with the participation of the relevant sectors and actors. The PSC shall be chaired the MARENA. One high level representative of each of the following institutions and sectors shall participate: MHCP, MAG, MEFFCA, INAFOR, INETER, SDCC, SPPP, Regional Government RACCN, Regional Government RACCS, GTIs North CR, GTIs South CR, Governments Alto Wangki Bocay, Cocoa Private Producers, Livestock Private Producers and the Academia (17 members). Both Executing Entities, the MARENA and the MHCP shall report to the Project Steering Committee. Implementation of Project Activities shall be done with the support of several Implementation Partners.

**Figure 2:** Overall Project governance and implementation scheme



72. Technical Project execution, coordination and monitoring will be carried out by the MARENA, who shall set up and run the Project Implementation Unit (PIU). MARENA shall execute all “technical” project outputs that are not going to be financed and implemented through Funds or the public budget, since these are going to be executed by the MHCP. For the delivery of Project outputs and implementation of activities MARENA and the MHCP shall sign specific implementation agreements or contracts with Implementation Partners, selected according to their specific competencies and mandates.

**Figure 3:** Detailed Project governance and implementation scheme



73. The main functions of the different Project Entities, as well as the institutions that perform these functions are presented in the table below:

**Table 3 a** Project Entities, participating institutions and main functions

PROJECT ENTITY	INSTITUTION (S)	MAIN FUNCTIONS
<b>STEERING COMMITTEE</b>	MARENA (Chair); and one high level representative of each of the following institutions and sectors: MHCP, MAG, MEFFCA, INAFOR, INETER, SDCC, SPPP, Regional Government RACCN, Regional Government RACCS, GTIs North CR, GTIs South CR, Governments Alto Wangki Bocay, Cocoa Private Producers, Livestock Private Producers, Academia (17 members)	<ul style="list-style-type: none"> <li>• Provide political decision makers information on project progress, results and impacts.</li> <li>• Provides political and strategic orientation</li> <li>• Secures good inter-institutional coordination</li> <li>• Provides transparency, accountability and participation</li> <li>• Reviews and approves Annual Working Plan and Budget prepared by each Executing Entity</li> <li>• Reviews and approves the selection of Implementation Partners and Trust Funds presented by the EEs</li> </ul>
<b>EXECUTING ENTITY</b> (for all <b>non-Trust Fund</b> , National Fund and Public Budget financed Outputs)	MARENA	<ul style="list-style-type: none"> <li>• Sign the Subsidiary Agreement with the AE</li> <li>• Sign grant agreement with the GEF</li> <li>• Sign Emission Reduction Program Agreement ERPA with the World Bank / FCPF</li> <li>• Execute loan and grant resources under its responsibility</li> <li>• Procure the provision of technical services, goods and inputs needed to achieve Outputs according to Annual Operative Plan and Budget approved by the SC</li> <li>• Select and contract implementing partners after approval of the Steering Committee</li> <li>• Celebrate project implementation agreements with implementing partners (public, national and international)</li> <li>• Undertake monitoring and evaluation of implementation performance and safeguard compliance on each implementation partners mandate</li> <li>• Prepare calls for proposals, selects and contracts services providers</li> <li>• Prepare and monitor execution of Annual Working Plan and Budget</li> <li>• Approve Implementation Reports presented by Implementation Partners</li> <li>• Prepare and submit quarterly, semesterly and yearly follow-up and monitoring reports to the AE (CABEI)</li> <li>• Prepare and submit specific reports on demand of AE</li> <li>• Set up and operate the Project Implementation Unit (PIU)</li> </ul>
<b>EXECUTING ENTITY</b> (for all Trust Fund, National Funds and Public Budget financed Outputs, mainly Outputs 1.2.1, 1.2.2 and 2.1.1)	MHCP	<ul style="list-style-type: none"> <li>• Sign the loan agreement with CABEI</li> <li>• Sign the Subsidiary Agreement with CABEI</li> <li>• As settler of the Trust Funds, celebrate and sign the Trust Fund contract with the Financial Institution(s) selected as Trustee for Trust Funds (RBPs, CAF, SPR)</li> <li>• Transfer loan and grant resources to Trust Funds and to National Funds</li> <li>• Monitor execution of Annual Working Plan and Budget presented by Trust Funds and National Funds</li> </ul>

		<ul style="list-style-type: none"> <li>• Transfers budgetary resources to regional and local authorities (Output 2.1.1)</li> <li>• Prepare and submit quarterly, semester-ly and yearly follow-up and monitoring reports to the AE (CABEI)</li> <li>• Prepare / submit specific reports on demand of the AE</li> </ul>
<b>TRUST FUND INTER-INSTITUTIONAL COMMITTEE (IICs)</b>	<p>The RBP-Trust Fund IIC members include: MHCP (Chair), MARENA, SDCC, GRACCN, GRACCS, AWB, GTIs (2), Private Producers, Academia.</p> <p>CAF and SPR Trust Funds IIC members shall be defined during first year of Project Implementation (Output 2.1.3)</p>	<ul style="list-style-type: none"> <li>• Revise and approve the Annual Working Plan and Budget presented by the Trust Funds</li> <li>• Approve Trust Fund Contract, Operational Manual and Selection Criteria for Sub-Project financial incentives</li> <li>• Ratify signed Trust Fund Contract</li> <li>• Review and approve selection presented by the Trustee of the Community Sub-Projects to be financed through the Trust Fund</li> <li>• Revise, discuss and approve financial statements and annual auditing reports, and recommends corrective action if needed</li> <li>• Supervise correct and efficient resources use</li> <li>• Approve any re-capitalization or exchange rate gain</li> </ul>
<b>TRUSTEE</b>	Financial Institution(s) of the Nicaraguan Financial Sector	<ul style="list-style-type: none"> <li>• Manage entrusted financial resources according to Trust Fund Contract celebrated with the MHCP</li> <li>• Procure the provision of technical services, goods and inputs needed to achieve the outputs commissioned by the IIC according to Annual Operative Plan</li> <li>• Select the sub-projects prepared by indigenous and afro descendant communities in accordance with the eligibility criteria contained in the Trust Fund Contract and the Operational Manual approved by the IITC</li> <li>• Sign an financing agreement with each of the beneficiaries</li> <li>• Make payments for Emission Reductions according to ER Benefit Sharing Plan (Annex 24)</li> <li>• Prepare and submit quarterly and yearly reports to MARENA, the IIC and CABEI on the management of the proceeds and implementation of entrusted project activities</li> </ul>
<b>GEF IMPLEMENTING AGENCY</b>	FAO	<ul style="list-style-type: none"> <li>• Execute GEF-7 grant resources and provide inputs to co-financing reports to the GCF</li> </ul>
<b>ACCREDITED ENTITY</b>	CABEI	<ul style="list-style-type: none"> <li>• Sign the Funding Activity Agreement (FAA) with the GCF (loan and grant tranches)</li> <li>• Sign the loan agreement with the MHCP</li> <li>• Sign the Subsidiary Agreement with the Executing Entities MARENA and MHCP</li> <li>• Appraise and finalize project implementation arrangements and advise Executing Entities (EE's) on PIU establishment, including mission travel</li> <li>• Advise on / participate in project inception workshops</li> <li>• Assist the EE's to draft terms of reference (TOR) and provide advice on the selection of experts or implementation partners</li> <li>• Conduct at least one supervision mission per year, including briefing operational focal points on project progress. As necessary, include technical consultants during supervision missions to provide advice and assistance to EE's and implementing partners, as needed</li> <li>• Provide technical guidance and support, as necessary, for project implementation</li> </ul>

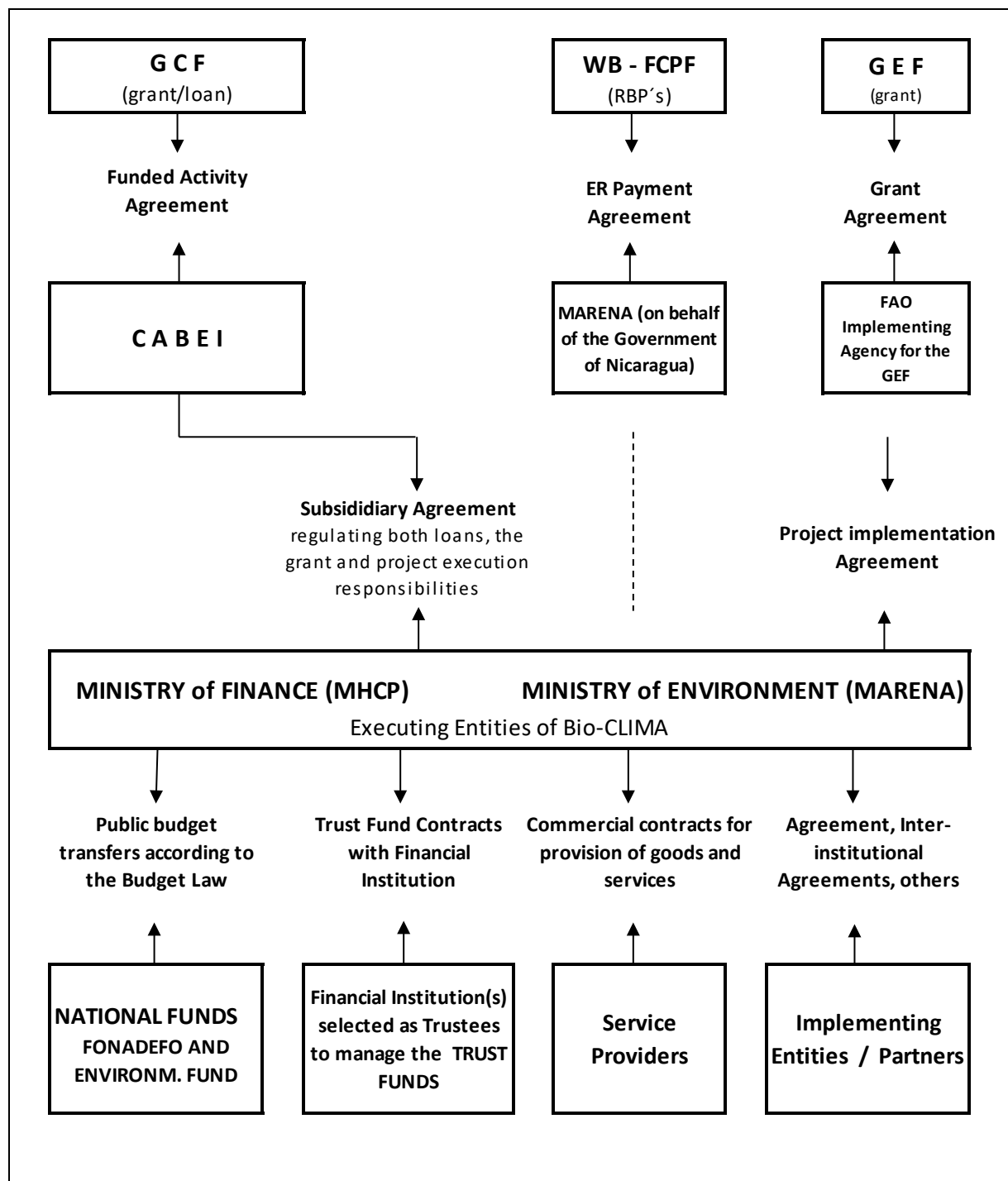
		<ul style="list-style-type: none"> <li>• Disburse funds to the EEs, monitor and review project expenditure and review financial reports</li> <li>• Oversee procurement and financial management to ensure implementation is in line with CABEL's policies, procedures and timelines, ensuring that any entity relevant to the project complies with IFRS accounting standards.</li> <li>• Oversee the preparation of the required reports for submission to GCF Secretariat</li> <li>• Prepare periodic revisions to oversee if changes have been made in annual expense category budgets</li> <li>• Assist/oversee the audit process throughout the project life cycle</li> <li>• Undertake the Project Midterm Review</li> <li>• Oversee the preparation of the project completion report/independent final evaluation, and submit the report to the Secretariat of the GCF</li> <li>• Prepare project closing documents, including financial closure, for submission to the Secretariat of the GCF</li> </ul>
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74. Project implementation modalities: Both Executing Entities shall select and contract specialized implementation partners. The main typologies, contracting modality and selection of Bio-CLIMA's implementation partnerships are presented in the table below:

**Table 3 b** Implementation partnerships and modalities

PARTNER	CONTRACT	SELECTION	ENTITY
SPECIALIZED NATIONAL OR INTERNATIONAL SERVICES PROVIDERS	Contract between EE and selected service provider	Competitive national or international bidding process according to AE and EE procurement policies and procedures	Private consultancy firms, NGO's and/or services providers
NATIONAL OR INTERNATIONAL DELIVERY PARTNERS	Letter of Agreement, Project Activity Implementation Agreement, or similar applicable instrument	Analysis of options and decision by the Project Steering Committee	Technical agencies of the UN System, Universities, Research Institutes, or similar entities
TRUSTEE(S) FOR THE TRUST FUNDS	Trust Fund Contract between MHCP and the selected Financial Institution to act as Trustee, according to Law No.741	Competitive national bidding process and selection by the Project Steering Committee	Private Financial Institution of the Nicaraguan Financial System
PUBLIC INSTITUTION	Inter-institutional Letter of Agreement	Analysis of options and decision of the Project Steering Committee, according to institutional capacities and legal mandate	National, regional and local public entities, including GTIs
NATIONAL FOREST DEVELOPMENT FUND	Provisions of Forest Law No.462 (Article 50), its Regulations and Operative Manuals	Project Steering Committee Decision, according to legal mandate	FONADEFO (Fondo Nacional de Desarrollo Forestal)
NATIONAL FUND OF THE ENVIRONMENT	Environment and Natural Resources Law No.217 (Articles 51 – 53), its Regulations and Operative Manual	Project Steering Committee Decision, according to legal mandate	FAN (Fondo Nacional del Ambiente)

**Figure 4:** Main contractual arrangements



## TRUST FUNDS AND NATIONAL FUNDS

75. It is envisaged that three specific trust funds, the Silvo-pastoral Restoration Trust Fund (SPR-TF), the Cocoa-Agroforestry Restoration Trust Fund (CAR-TF) and the REDD+ Result Based Payments Trust (RBP-TF) will be set up with Program facilitation and technical support. These Trust Funds will be commended to procure goods and services and to make the payments needed to support the activities for landscape restoration, forest conservation and climate-resilient production included in Project Outputs

1.2.1 and 1.2.2., complementarily with the National Forest Fund (FONADEFO) and the National Fund of the Environment (FAN).

76. Each Trust Fund will be governed by an Inter-Institutional Committee (IIC) where relevant sectoral institutions and actors participate. In the case of the RBP-TF it has already been agreed upon that its IIC will be chaired and coordinated by the Ministry of Finance (MHCP), and will include the MARENA, the Secretariat for the Development of the Caribbean Region (SDCC), one representative from each of the two Regional Governments of the Caribbean Coast (GRACCN-North and GRACCS-South), a representative of the coordination of the GTIs of the Alto Wangki y Bocay (AWB), one representative of the Indigenous Territorial Governments for each Region (North CR and South CR), one representative of private producers, and one representative from the academia. Other relevant entities like the Protected Area System (SINAP), the municipalities of the CR, INAFOR, SDCC, INETER, INTA, MAG and other relevant actors may be included, depending of the specific issues to be discussed and decided. The duration of the RPB-TF shall be the same as the duration of the ERP agreed upon with the World Bank/FCPF, which is 7 years, and the settler will be the MHCP (The roles and responsibilities of different actors and entities are included in Annex 24<sup>59</sup>).

77. The Silvo-pastoral Restoration - (SPR-TF) and the Cocoa-Agroforestry Restoration Trust Fund (CAR-TF) will be set up during the first year of project implementation with intensive technical, legal and facilitation (see Output 2.1.3 "Public-private dialogue and cooperation strengthened"). The Project will strive to achieve the participation of producer organizations and corporate private actors of both the livestock and the cocoa sectors with the objective to create long term investment facilities as investment vehicles for the private sector to incentivize sectoral transformation, sustainable development and growth. Therefore, these two Trust Funds should have a duration of at least 10-15 years or more. To this End a private-public dialogue will be facilitated by a neutral trusted party in the role of an honest broker, which will make sure that legitimate and independent participation of relevant stakeholders is granted, and that internal cross-checks and balances guarantee transparency and accountability in the use of the funds. These principles, as also a Grievances and Redress Mechanism, shall be included in each of the Trust Fund contract and operationalized through its Operational Manuals as result of the dialogue, negotiation and consensus process that shall take place during the first year of Project implementation.

78. The financial, operational and administrative management of these three Trust Funds will be commended to one or various private financial institutions active in the Nicaraguan financial sector that will act as Trustees and shall be selected through an open, competitive bidding process. CABEL, as AE, will complete a capacity assessment of the financial institutions taking into consideration a risk assessment of their financial management and procurement policies, procedures, and controls, including their ability to implement and comply with CABEL's policies.

79. As to Nicaraguan Law (No. 741<sup>60</sup> on Trust Fund Contracts) and as in most Latin American countries, Trust Funds ("*fideicomisos*") constitute an autonomous worth that can be used by the Trustee exclusively for the purposes set in the Trust Fund Contract, according to the specific instructions given by the Settler. A *fideicomiso* is not a juridical person, but a wealth or group of assets which is transferred to the Trustee, who acts as legal representative for its purposes. Pursuant to the Law, the *fideicomiso* as autonomous patrimony is separated from the Trustee's patrimony, and as such cannot be affected by claims from third parties filed against the Trustee. The Trust Fund Contract will have to be vetted by the Inter-institutional Committee, who will also oversee the activities carried out by the Trustee and approve annual operational plans and budgets. Given these attributes, *fideicomisos* are often used in Latin-American countries to efficient and transparent use of resources and shield them off from unduly political interferences and corruption.

<sup>59</sup> Section 5, Institutional Roles and Arrangements, Benefit Sharing Plan of the ERP (Annex 24)

<sup>60</sup> Ley No.741 Sobre el Contrato de Fideicomiso (La Gaceta No. 11, Enero 2011) y Decreto No.69-2011: Reglamento a la Ley 741.

80. Three specific trust fund contracts shall to be signed between the selected trustee(s) and the MHCP. These trust fund contracts will specify the responsibilities that the trustee will have regarding the management of the financial resources and the activities it should undertake to achieve relevant project outputs. The trust fund contracts will contain exact instructions for the trustee to carry out the specific tasks, procure goods and services needed in order to produce Project outputs in an efficient and transparent way. The contract shall also include provisions for the operation of an efficient and transparent geo-referenced monitoring and reporting system to make sure any double-dipping is avoided. Initial capitalization for the Trust Funds will come from blended FCPF/GCF grant and loan resources; as from CABEL loan resources. As all these three Trust Funds will not be investment, but resources administration trust funds it is not envisaged that any significant surplus will be generated from them. Nevertheless, if such surplus occurs for any reason, these resources shall be spent only for the purposes defined in the trust fund contracts which is the financing of sub-project of landscape restoration or forest conservation.

81. Preliminary criteria to select the financial institution that will act as trustee for these Trust Funds shall in be in accordance with the Benefit Sharing Plan of the ERP (attached as Annex 24) and include<sup>61</sup>:

- Financial Institution duly established under Nicaraguan Law
  - Experience in the establishment and management of Trust Funds as Trustee
  - No legal nor administrative limitations to undertake such duties
  - Willingness of build-up presence in the Project area to guarantee disbursements to local beneficiaries
  - Offer of a variety of different instruments to make monetary disbursements
  - Technical capacity to prepare and execute competitive bidding processes and sub-projects
  - Ability to manage and oversee socio-environmental programs
  - Diversification of financial instruments for sustainable livestock and agroforestry sub-projects
  - Access to funding sources interested in forest landscape restoration and avoided deforestation
- CABEL as AE will complete a capacity assessment of the financial institution chosen, taking into consideration a risk assessment of their financial management and procurement policies, procedures and controls, including their ability to implement and comply with CABEL's policies.

82. The financial resources to co-finance the sub-projects for Sustainable Community Enterprises, Community Forest Management and Restoration included in "Output 1.2.2 Natural forests ecosystems and forest land conserved, restored and sustainably used" shall be administered by the National Funds, which are the Forest Development Fund FONADEFO operative since 2003, and the National Fund of the Environment (FAN). These Funds will provide non-reimbursable incentives to beneficiaries according to their respective regulations and operating manuals. Their governance and operation is ruled by legal procedures and regulations that have been duly assessed by the Program<sup>62</sup> and are audited by the General Comptroller of the Nation (*Contraloría General de la República*). The governance mechanisms of both Funds allow for the participation of sectoral governmental institutions and non-governmental entities and actors, setting the basis for participation, transparency and accountability.

83. The FONADEFO<sup>63</sup> is managed by the co-Directorate at the National Forestry Institute INAFOR and is governed by an inter-institutional Regulating Committee composed of INAFOR, MARENA and the MHCP. INAFOR's co-Directorate has to inform twice a year to the National Forest Commission CONAFOR about the development of the projects and programs. The CONAFOR counts with other

<sup>61</sup> Benefit-sharing plan of the ERP of the Caribbean Coast of Nicaragua. Plan de Distribución de Beneficios. Programa de Reducción de Emisiones para la Costa Caribe de Nicaragua. MARENA 2019; see also Section H, Annex 24), according to norm SIBOIF-677-2-MAY66-2011, Superintendencia de Bancos y Otras Instituciones Financieras.

<sup>62</sup> Please refer also to the institutional and operational assessment of the FONADEFO within ERPD, Annex 16 that can be accessed at: [https://www.forestcarbonpartnership.org/system/files/documents/ANNEXES\\_Nicaragua%20final%20ERPD\\_English\\_%20042818.pdf](https://www.forestcarbonpartnership.org/system/files/documents/ANNEXES_Nicaragua%20final%20ERPD_English_%20042818.pdf)

<sup>63</sup> FONADEFO was created by Forest Law No. 462 and is ruled by Administrative Resolution No. CODF 59-2018 ( La Gaceta, Official Diary No.73, April 12<sup>th</sup>, 2019)

governmental entities from the national level (IPSA, MEFCCA, INAFOR, MAG, MIFIC, MARENA, MINED, INTUR), as well as both Regional Governments from the CR, the Association of Municipalities (AMUNIC) and sectoral private and non-governmental representatives, as well as members from professional associations.

84. The FAN<sup>64</sup> is governed and overseen by a Board of Directors that is put together by a very wide spectrum of representatives from four National Ministries (MARENA, MHCP, Agriculture, Industries and Commerce); the Executive Director of the National Committee for Sustainable Development, a representative of the Municipalities (AMUNIC), and three representatives from organized civil society organizations (E-NGO's, private sector, academia). This Board takes relevant strategic decisions, sets funding policies, approves the annual operation plan and budget, and appoints on the Executive Director of the Fund who is accountable to the Board. The ample participation of different entities and sectors shall allow for a transparent and efficient use of the financial resources allocated to this Fund. The following Table 3.c summarizes Project executing and implementation roles and responsibilities for the delivery of each of Bio-CLIMA's Project Outputs

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<sup>64</sup> The National Fund for the Environment FAN was created by Law No.217/1996 and is normed by its regulations issued by Presidential Decree No.91-2001 (La Gaceta, Official Diary No.195, 15.10.2001)

**Table 3 c** Project executing and implementation roles and responsibilities

OUTPUTS	EXECUTING ENTITY	IMPLEMENTATION PARTNER	ROLE
Output 1.1.1 Land use and management plans formulated; and restoration/conservation agreements signed/formalized with beneficiaries	MARENA	Specialized national or international services providers and/or national or international delivery partners.	Provide technical assistance to undertake participatory, gender sensitive land uses, business and resources planning to individual families and indigenous communities. Facilitate the celebration peaceful cohabitation, landscape restoration and forest conservation agreements.
Output 1.2.1 Degraded pasture- and rangeland restored	MHCP	Trustee of the Silvo-pastoral Restoration - (SPR-TF) and the Cocoa-Agroforestry Restoration Trust Funds (CAR-TF).	Procure the provision of technical services, goods and inputs needed to achieve the outputs commissioned by the ITC according to Annual Operative Plan
Output 1.2.2 Natural forests ecosystems and forest land conserved, restored and sustainably used	MHCP	FONADEFO, NATIONAL ENVIRONMENTAL FUND (FAN), and Trustee of the REDD+ RBP TRUST FUND	Provide financial incentives to communities for sub-projects submitted according to Operational Manuals. Make payments and procure goods and services to beneficiaries according to ER-Benefit Distribution Plan.
Output 1.2.3 Farmer cooperatives, producer organizations and community enterprises access high-value markets	MARENA	Specialized technical assistance services providers and/or national or international delivery partners.	Provide training, expert support and coaching to farmer cooperatives, producer organizations and indigenous communities.
Output 2.1.1 Environmental authorities present at the regional and local level, including municipalities and Indigenous Territorial Governments (GTIs) strengthened	MHCP	Environmental authorities present at the regional and local levels (MARENA, INAFOR, SERENA RACCN and RACCS, municipalities and Indigenous Territory Governments (GTIs)	Undertake mandatory duties of regulation, oversight and forest and environmental law enforcement, and territorial defense and natural resources conservation.

Output 2.1.2 Legal and normative framework up-dated	MARENA	Specialized technical assistance services providers and/or national or international delivery partners.	Provide expert and facilitation support to update technical and administrative norms and procedures; as to update management plans of protected areas
Output 2.1.3 Public-private dialogue and cooperation strengthened	MARENA	Specialized technical assistance services providers and/or national or international delivery partners.	Provide expert and facilitation support to improve the business climate, involve the private sector and community and set-up the SPR and CAR Trust Funds
Output 2.2.1 Territorial governments and local organizations strengthened	MARENA	Specialized technical assistance services providers and/or national or international delivery partners	Provide organizational, technical and legal support to strengthen the GTIs, local producer organization and local producer organizations.
Output 2.2.2 Forest, land-use and land use change administration, control and environmental law enforcement strengthened	MARENA	Environmental authorities present in the region, including Regional and Local Governments and Indigenous Territory Governments (GTIs)	Set up and operate mobile and fixed timber transport, deforestation and forest fire prevention and territorial and resources defense control brigades.
Output 3.1.1 Technical personnel, extension workers and promoters trained	MARENA	Specialized technical assistance services providers and/or national or international delivery partners	Provide training to technical personnel and extension workers from public entities at the regional and local levels.
Output 3.1.2 Producers and members of organizations/communities trained	MARENA	INTA, INAFOR, MECCA, SERENAs (RACCN and RACCS), and GTIs.	Provide training to farmers, producers and members of indigenous and non-indigenous organizations.
Output 3.2.1 Information systems for climate resilient sustainable development and risk management are in place	MARENA	Specialized technical assistance services providers and/or national or international delivery partners	Provide expert support to set-up / update land use, land use change and natural resources and GHG emissions information and monitoring tools and systems.
Output 3.1.1 The public is more aware of the need for climate change adaptation/mitigation and forest ecosystem restoration and conservation	MARENA	Specialized technical assistance services providers and/or national or international delivery partners	Provide expert support and consultancy services to develop and roll out a communication strategy and environmental education campaign.

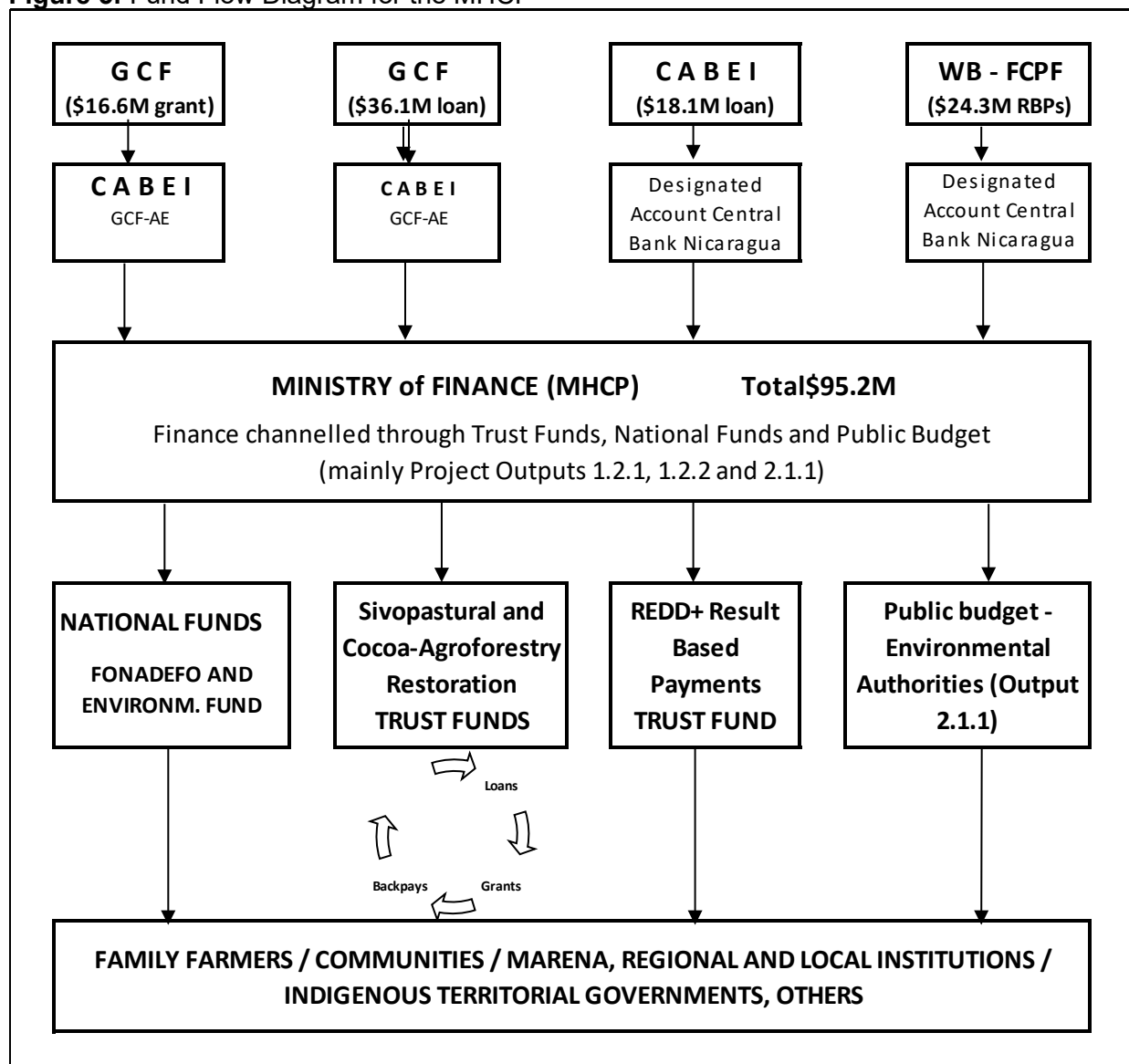
**Table 3d** Financial instruments for Trust Funds and National Funds disbursements

FINANCIAL INSTRUMENT OR ENTITY	MODALITY OF DISBURSEMENTS
Silvo-pastoral Restoration Trust Fund (SPR-TF)	<ul style="list-style-type: none"> <li>• Procurement of the provision of technical assistance and professional services</li> <li>• Procurement of goods and inputs</li> <li>• Loans for middle sized producers</li> </ul>
Cocoa Agroforestry Restoration Trust Fund (CAR-TF)	<ul style="list-style-type: none"> <li>• Procurement of the provision of technical assistance and professional services</li> </ul>
REDD+ Result Based Payments Trust Fund (RBP-TF)	<ul style="list-style-type: none"> <li>• Grants to co-finance community sub-projects</li> <li>• Procurement of goods and inputs for communities</li> <li>• Cash payments to private owners (ERPD BSP, not included in Bio-CLIMA budget)</li> </ul>
National Forest Fund (FONADEFO)	<ul style="list-style-type: none"> <li>• Grants to provide financial incentives / co-finance community sub-projects: Sustainable Community Enterprises (SCEs), Community Forest Management (CFM), and Community Forest Restoration (CFR)</li> </ul>
National Fund of the Environment (FAN)	

## FLOW OF FUNDS<sup>65</sup>

85. MARENA and the MHCP as Project Executing Entities shall receive the financial resources for the Bio-CLIMA Project from the different funding sources (GCF, GEF, CABEI, FCPF) using the specific disbursement mechanisms and regulations of each of them. In the operational phase these will identify, select and engage the different implementation partners as to the typologies and modalities described above, who will be responsible for the implementation of Project activities and delivery of Project Outputs, for which the financial resources shall be transferred, according to the schematic flow diagrams that are shown in the diagrams below:

**Figure 5: Fund Flow Diagram for the MHCP**



86. It is envisaged that through the Silvo-pastoral Restoration - (SPR-TF) and the Cocoa-Agroforestry Restoration Trust Funds (CAR-TF) approximately US\$18.6 million shall be invested to finance the activities for the restoration of degraded pasture and rangeland included under Output 1.2.1.

<sup>65</sup> The values presented in Tables 4, 5, 6, 7 and Figures 5 and 6 represent the flow and management of funds and are not directly comparable with those presented in Tables 9 and 10, which present the general budget and include all funding sources (e.g. GEF-7 funding which will not be managed through Trust Funds), according to the respective format.

Most of investment are material and equipment for the establishment of the silvo-pastoral, cocoa-agroforestry and CTNPF reforestation (87.28%) by family farmers, and activities related to the training and technical assistance, as shown in the table below:

**Table 4** Funds to be channeled through the SPR and CAR Trust Funds, by sources and budget categories

SILVO-PASTORAL AND COCOA-AGROFORESTRY RESTORATION TRUST FUNDS						
Budget categories	Total Cost (\$US)	Funding Sources				%
		GCF (Grant)	GC(Loan)	CABEI (Loan)	GEF (Grant)	
Materials and Equipment	16,220,291	4,231,252	7,757,296	4,231,743	- 0	87.28%
Training, workshops, and conference	408,230	53,100	97,351	257,779	- 0	2.20%
Travel	636,472	53,100	97,351	486,021	- 0	3.42%
Professional/ Contractual Services	1,319,233	212,402	389,403	717,428	- 0	7.10%
<b>TOTAL</b>	18,584,225	4,549,855	8,341,400	5,692,970	- 0	100.00%
%		24.48%	44.88%	30.63%	0.00%	

87. On the other hand, a financial volume of approximately US\$42.5 million shall be invested into conservation, restoration and sustainable use forest ecosystems by indigenous and afro-descendant communities through Sustainable Community Enterprises, commercial Community Forest Management CFM and Community Forest Restoration (CFR) sub-projects. These resources shall be administered by the National Funds: the FONADEFO and the National Fund of the Environmental (FAN). Most resources (79.28%) shall be invested by the communities in material, equipment, construction and infrastructure, as presented in the table below:

**Table 5** Funds to be channeled through the National Funds, by sources and budget categories

NATIONAL FUNDS: FONADEFO AND FAN						
Budget categories	Total Cost (\$US)	Funding Sources				%
		GCF (Grant)	GCF (Loan)	CABEI (Loan)	GEF (Grant)	
Materials and Equipment	15,335,735	4,216,172	10,360,723	758,840	0 -	36.06%
Construction cost	18,367,033	5,315,466	11,736,245	1,315,323	0 -	43.19%
Training, workshops, and conference	1,035,095	301,811	658,123	75,161	0 -	2.43%
Travel	1,441,116	421,421	927,569	92,126	0 -	3.39%
Professional/ Contractual Services	6,351,240	1,845,235	4,084,860	421,146	0 -	14.93%
<b>TOTAL</b>	42,530,220	12,100,105	27,767,519	2,662,596	0 -	100.00%
%		28.45%	65.29%	6.26%	0%	

88. Result Based Payments from the World Bank/FCPF addressed to producers and indigenous communities to be channeled through the RBP-TF shall complement and co-finance the before-mentioned activities included in Project Sub-component 1.2 for the investments in landscape restoration, forest conservation and climate-resilient production up to an amount to US\$24.3 million:

**Table 6** Funds to be channeled through the Result Based Payments Trust Fund, by sources and budget categories

REDD+ RESULT BASED PAYMENTS TRUST FUND		
Budget categories	Total Cost (\$US)	%
Materials and Equipment	11,608,969	47.74%
Construction cost	7,600,004	31.25%
Training, workshops, and conference	650,152	2.67%
Travel	1,145,487	4.71%
Professional/ Contractual Services	3,311,861	13.62%
<b>Total</b>	<b>24,316,473</b>	<b>100.00%</b>

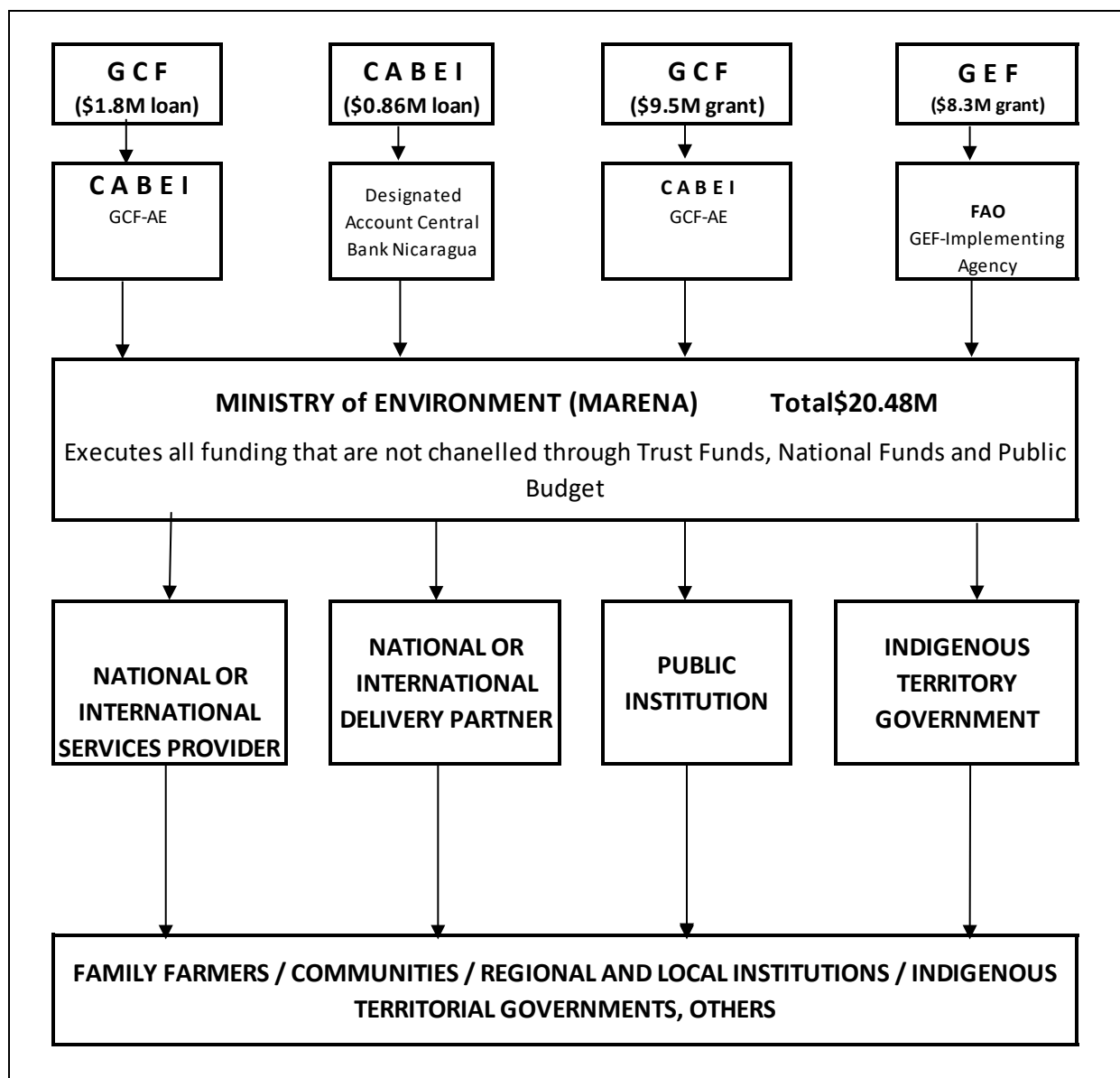
89. The total amount to be executed by the MHCP is of US\$95,213,236, from which US\$85,430,918 shall be flow through the abovementioned mechanisms (Trust Funds and National Funds).

90. The total finance to be executed by the MARENA (and the FAO as GEF-Implementing Agency on its behalf) for the implementation of the “technical” and monitoring activities to be implemented in collaboration with implementing partners amounts to US\$20,479,009 and is illustrated as to the fund flow diagram below:

**Table 7** Funds to be executed by MARENA (FAO for the GEF) , by sources and budget categories

Budget categories	Total Cost (\$US)	Funding Sources				%
		GCF (Grant)	GCF (Loan)	CABEI (Loan)	GEF (Grant)	
Local consultants	1,275,278	583,566	285,711	-	406,001	6.23%
International consultant	396,000	244,714	28,800	-	122,486	1.93%
Materials and Equipment	4,535,862	1,615,508	261,083	175,355	2,483,917	22.15%
Construction cost	1,649,115	230,700	132,127	61,395	1,224,893	8.05%
Training, workshops, and conference	1,361,698	721,028	82,053	20,641	537,976	6.65%
Travel	1,251,650	551,757	127,233	67,203	505,458	6.11%
Professional/ Contractual Services	10,009,406	5,541,836	929,035	537,052	3,001,483	48.88%
<b>TOTAL</b>	<b>20,479,009</b>	<b>9,489,108</b>	<b>1,846,042</b>	<b>861,646</b>	<b>8,282,213</b>	<b>100.00%</b>
%		46.34%	9.01%	4.21%	40.44%	

**Figure 6:** Fund Flow Diagram for the MARENA



**B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)**

91. The International Monetary Fund has classified Nicaragua as a moderately risky country. In this very complex and challenging economic context the Government of Nicaragua will be making an enormous fiscal effort to achieve the transformational change proposed through Bio-CLIMA, which can only be achieved with an equivalent big grant portion from the GCF and the GEF needed to create the state building measures, institutional capacities, normative and governance conditions, and an investment climate to enable deforestation reductions in the CR. GCF and GEF grant funding is needed, in addition to CABEL, and FCPF REDD+ RBPs co-finance in order to reach the most vulnerable population, indigenous and afro-descendant people, targeting especially the women and the young at the agricultural frontier in Nicaragua: they have very limited market access, limited access to financial markets and agricultural and climate technological advice, and suffer from poor basic infrastructure. Bio-CLIMA will support the creation of the enabling institutional environment, improved business climate to de-risk private finance and better market access to catalyze a long-lasting transformation that will enable that the REDD+ RBP continue supporting forest conservation and rural livelihoods in the medium and longer term after project End.

92. Therefore, it cannot hire high indebtedness and must therefore prioritize concessional debt. Due to the lack of solvency to obtain loans under market conditions, legal and policy instruments have been designed - General Public Debt Act (Law 477), Debt Strategy and Annual Public Indebtedness Policy - to establish public borrowing ceilings to maintain control of the level of debt and sustainability of public finance. In additionally to the already stringent financial panorama Nicaragua is facing, the effects of the COVID-19 crisis might force the Government of Nicaragua to assign additional budget resources to the health sector and to the reactivation of the economy. The CR of Nicaragua, especially the vast and remote areas within the buffer zones of BOSAWÁS and Indio Maíz protected areas have a very weak presence of any of the institutions: not only public regulators, technical assistance or service providers of any nature, but also financial service providers and financial markets are completely absent. Private financial institutions are not present in the region, thus new and specially tailored instruments to provide financial incentives, TA and market access, like the Trusts Funds will need to be created. Vulnerable groups such as women, youth, and indigenous peoples are particularly disadvantaged. GCF grant support will allow for the transformation of farming techniques, restoring degraded landscaped through climate smart and resilient agricultural production systems that sequester carbon, conserve ecosystems and ecosystem services. Without the grant that is being requested by Nicaragua for this Project, the country could no invest in all the actions required to achieve the challenges posed by the transformational process needed to revert the vicious cycle of poverty, natural resources depletion and deforestation in the vast territory of the Caribbean Region, which has and extension of the national territories of the Netherlands and Belgium, together.

93. Within such a challenging environment public investment (national and international) need to first create an enabling environment to catalyze sustainable development and arrange for the provision of public goods. While the financial analysis shows that for all models the IRR is higher than the discount rate of 8%, a high level of concessionality will be necessary to act as a real incentive to trigger the behavioral change needed. Return on investment happens only after 7 and up to 14 years, which makes models attractive only with a strong incentive since the project are has extremely complex conditions regarding public infrastructure, accessibility and services that are completely absent, and that must also be taken into consideration.

**B.6. Exit strategy and sustainability (max. 500 words, approximately 1 page)**

94. The productive landscape restoration and forest conservation modules that will be introduced by the Project will generate financial benefits that are much higher than the investment initially mobilized and have a financial IRR between 11.2 and 16.4%, while SCE, CFM and CFR sub-projects are estimated to range between 10.2 and 21.6 financial IRR; thus respectively producing important financial benefits for the beneficiaries in the middle and long term. The linked to high value markets with project support, and additional technical capacities and strengthened extension services at local level, these models will quickly be scaled up to cover the entire CR and produce forest conservation and livelihood improvement benefits.

95. The Project will initially impact on 8,417 productive units and 603, 035 ha of forests within the project implementation areas to be then scaled-up to additional beneficiaries and communities in the 23 indigenous territories. This will be achieved through i.) INTA's Innovation and Research Farm (FIIT) – model through which farmers share knowledge using the farmer field school methodologies, ii.) The REDD+ Result Based Payment scheme that will continue to support sustainable forest conservation initiative put forward and executed by indigenous and afro-descendant communities and; iii.) Incentives to sustainable forest management and reforestation sub-projects to be financed through the FONADEFO and the other the Environmental Fund. While Nicaragua is expected to sign an Emission Reduction Agreement for its first REDD+ RBP program with the World Bank before the End of year 2020 for a total of 11 M t CO<sub>2eq</sub> until year 2025, a follow-up agreement for emission reductions payments will follow, be this with the FCPF, the GCF "REDD+ window", or with another interested party. The carbon flows and its potential market value reach far beyond the 7-year duration of the Bio-CLIMA project and its future RBPs will secure a forest conservation and sustainable development pathway in the medium and long term.

96. Bio-CLIMA and the ERP are complementarily for the implementation the national REDD+ Strategy ENDE REDD+: Bio-CLIMA will provide catalytic investment, create the technical conditions, capacities and provide the enabling environment for REDD+, the ERP will allow for REDD+ Result Based Payments that will benefit directly private land owners and indigenous communities in the long term with a RBP potential<sup>66</sup> of more than US\$ 473 million, which will be additional to those generated by the financial returns from the restoration and conservation models mentioned above. As shown in Table 8 below, even in the most pessimistic scenario of achieving only 50% of the emission reduction targets set in the ERP, the financial flows accruing the REDD+ RBP Trust Fund in order to benefit local communities and producers that restore landscapes and/or conserve forests will reach a monetary value for more than US\$78.9 million at year 8 when Bio-CLIMA is expected to End.

97. Once the Silvo-pastoral and Agroforestry Restoration Trust Funds have been set up by Bio-CLIMA a stronger involvement of the private sector will be facilitated by the Project in order to include them into the scheme to partner with the objective to promote sustainable, carbon neutral and fair-trade production schemes. During project preparation possible private partners which include Ritter Sport, Cacao Oro, Atlantic and Ingelmann (cocoa); as the Association of Cattle Farmers and Meat Exporters (FEDEGAN, CANICARNE) have been contacted. The project will strive to integrate small, medium and larger producers and companies through financial support, technical assistance and market support.

98. The substantive investment the Government of Nicaragua is doing in order to strengthen local institutions and capacities will be the basis for replication and scaling-up of best practices introduced by Bio-CLIMA at the regional level. This, together with an updated legal and normative framework for climate-smart sustainable land and forest use, governance conditions and a general enabling environment will permit scaling-up to the whole CR.

<sup>66</sup> 100% emission reduction target

**Table 8** Projected emission reductions and its estimated monetary value

Year	Marketable carbon according to the emission reduction targets (US\$ 5/tCO2 eq)								Source (Result Based Payment/ Potential carbon market)
	25%		50%		75%		100%		
	MtCO 2 eq	Value (US\$)	MtCO 2 eq	Value (US\$)	MtCO 2 eq	Value (US\$)	MtCO 2 eq	Value (US\$)	
1	0.55	2,767,226	1.11	5,534,451	1.66	8,301,677	2.21	11,068,903	a) REDD+ (FCPF - WB)
2	1.28	6,390,444	2.56	12,780,887	3.83	19,171,331	5.11	25,561,774.	
3	2.27	11,326,066	4.53	22,652,132	6.80	33,978,198	9.06	45,304,264	
4	3.37	16,829,950	6.73	33,659,899	10.10	50,489,849	13.46	67,319,798	
5	4.55	22,752,439	9.10	45,504,878	13.65	68,257,317	18.20	91,009,756	
6	5.57	27,832,128	11.13	55,664,257	16.70	83,496,385	22.27	111,328,514	
7	6.40	31,995,899	12.80	63,991,797	19.20	95,987,696	25.60	127,983,595	a) REDD+ (FCPF or/ and GCF) b) Carbon market (private sector)
8	7.89	39,447,693	15.78	78,895,386	23.67	118,343,079	31.56	157,790,772.	
9	9.31	46,565,033	18.63	93,130,065	27.94	139,695,098	37.25	186,260,130	
10	10.67	53,347,918	21.34	106,695,835	32.01	160,043,753	42.68	213,391,66	
11	12.03	60,130,803	24.05	120,261,605	36.08	180,392,408	48.10	240,523,211	
12	13.38	66,898,380	26.76	133,796,761	40.14	200,695,141	53.52	267,593,521	
13	14.67	73,330,920	29.33	146,661,841	44.00	219,992,761	58.66	293,323,681	
14	15.95	79,763,460	31.91	159,526,921	47.86	239,290,381	63.81	319,053,842	
15	17.24	86,196,000	34.48	172,392,001	51.72	258,588,001	68.96	344,784,002	
16	18.52	92,613,233	37.05	185,226,466	55.57	277,839,699	74.09	370,452,932	
17	19.81	99,030,466	39.61	198,060,931	59.42	297,091,397	79.22	396,121,863	
18	21.09	105,440,044	42.18	210,880,089	63.26	316,320,133	84.35	421,760,178	
19	22.37	111,849,623	44.74	223,699,247	67.11	335,548,870	89.48	447,398,493	
20	23.65	118,259,202	47.30	236,518,404	70.96	354,777,607	94.61	473,036,809	

C. FINANCING INFORMATION						
C.1. Total financing						
(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)		Total amount			Currency	
		64,094,029			million USD (\$)	
GCF financial instrument		Amount	Tenor	Grace period	Pricing	
(i)	Senior loans	37,954,962	40 years	10 years	0.00 %	
(ii)	Subordinated loans	Enter amount	Enter years	Enter years	Enter %	
(iii)	Equity	Enter amount	Enter years		Enter % equity return	
(iv)	Guarantees	Enter amount				
(v)	Reimbursable grants	Enter amount				
(vi)	Grants	26,139,067				
(vii)	Results-based payments	Enter amount				
(b) Co-financing information		Total amount			Currency	
		51,598,216			million USD (\$)	
Name of institution		Financial instrument	Amount	Currency	Tenor & grace	Pricing
CABEI *		Senior Loans	18,999,530	million USD (\$)	25 years 5 years	1.5%
FCPC - Results-based payments **		Grant	24,316,473	million USD (\$)	Enter years Enter years	Enter%
GEF 7		Grant	8,282,213	million USD (\$)	Enter years Enter years	Enter%
(c) Total financing (c) = (a)+(b)		Amount			Currency	
		115,692,245			million USD (\$)	
(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)		<p>* Nicaragua will apply to CABEI's Poverty Reduction and Social and Economic Exclusion Program (PRPEES) for this Loan.</p> <p>** Result-based payments for emission reduction are marked as "grant" since the template does not provide a more exact choice.</p>				

## C.2. Financing by component

99. Nicaragua has decided to focalize its Emission Reduction Program in the Caribbean Region, which has an area of more than 7 million hectares, a territory of the size of the Netherlands and Belgium put together. To achieve the enormous challenge to reduce deforestation and improve ecosystem and livelihood resilience in such a vast, remote and poorly developed territory, a programmatic approach was chosen through which different funding sources and instruments are used complementarily and synergistically. Therefore, the financial structure by component and by activity shown in Tables 9 and 10 below show how different funding sources and instruments complement each other.

**Table 9** Financing sources by project components

Components	Total cost (US\$)	GCF Financing and Co-Financing (by Funding sources and financial instruments)					(%)
		GCF (Grant)	GCF (Loan)	CABEI (Loan)	FCPF REDD RBPs	GEF (Grant)	
<b>Component 1</b>	94,455,226	20,198,029	36,108,920	8,355,566	23,745,066	6,047,646	<b>81.64%</b>
<b>Component 2</b>	11,905,361	113,378	690,347	10,106,912	377,007	617,717	<b>10.29%</b>
<b>Component 3</b>	8,382,836	5,479,855	1,009,900	537,052	194,400	1,161,629	<b>7.25%</b>
<b>Project Management</b>	738,821	242,805	145,795	-	-	350,221	0.64%
<b>Independent Evaluation</b>	210,000	105,000	-	-	-	105,000	0.18%
<b>Total</b>	<b>115,692,245</b>	<b>26,139,067</b>	<b>37,954,962</b>	<b>18,999,530</b>	<b>24,316,473</b>	<b>8,282,213</b>	<b>100.00%</b>
<b>(%)</b>		22.59%	32.81%	16.42%	21.02%	7.16%	

100. **The mutual complementarity of funding sources results in a blended grant and loan finance for most activities.** This has been combined with assigning a bigger weight to a given funding source and instrument depending of activities and/or thematic areas: For example, land use and management planning for landscape restoration, forest conservation and climate resilient production (Subcomponent 1.1) are financed solely by the GCF and the GEF grant finance since these are preparatory activities for any investment. On the other hand, restoration of degraded pastures into silvo-pastoral systems (Activities 1.2.1.1 and 1.2.1.2) have a much stronger finance component originated from credit and RBPs, but not at all by GCF finance. Reforestation of degraded land on steep slopes into CTNPF (Act. 1.2.1.4) and the conservation and restoration of natural forest ecosystems and forest lands mainly in indigenous territories (Activities 1.2.2.1 – 1.2.2.3) involves a blend of all funding sources. It should also be noted that all investments and costs to strengthen the environmental authorities and the regional and local level included in Output 2.1.1 (e.g. personnel, equipment, material and operational costs) will be covered by credit; while capacity development activities included in Output 3.1.1.1 and 3.1.1.2 shall be exclusively financed through grants (GCF and GEF).

**Table 10 a** Total cost, financial instrument for all funding sources per project output and activity

COMPONENTS, SUB-COMPONENTS, OUTPUTS AND ACTIVITIES	Funding by sources ( in '000 US\$, rounded values )					
	TOTAL	GCF (Grant)	GCF (Loan)	CABEI (Loan)	FCPF (RBPS)	GEF-7 (Grant)
<b>COMPONENT 1: CONSERVING AND PRODUCING FOR LIFE</b>	94,455	20,198	36,109	8,356	23,745	6,048
<b>Sub-component 1.1 Land use and management planning for landscape restoration, forest conservation and climate-resilient production</b>	3,898	3,147	-	-	-	752
<i>Output 1.1.1 Land use/management plans formulated; and restoration/conservation agreements signed/formalized with beneficiaries</i>	3,898	3,147	-	-	-	752
1.1.1.1 Assist small producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).	2,094	1,529	-	-	-	565
1.1.1.2 Assist indigenous communities to formulate Territorial Development Plans (TDPs) including business plans (BPs).	695	660	-	-	-	35
1.1.1.3 Assist middle sized producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).	216	145	-	-	-	71
1.1.1.4 Facilitate celebration and formalization of landscape restoration and forest conservation agreements.	894	813	-	-	-	80
<b>Sub-component 1.2 Investments in landscape restoration, forest conservation and climate-resilient production</b>	90,557	17,052	36,109	8,356	23,745	5,296
<i>Output 1.2.1 Degraded pasture- and rangeland restored.</i>	26,352	4,550	8,341	5,693	6,739	1,028
1.2.1.1 Small producers (farm size < 35 ha) restore degraded pastures into climate resilient, biodiverse sustainable silvo-pastoral systems.	3,349	-	-	1,574	1,239	536
1.2.1.2 Middle sized producers (farm size > 35 ha) restore degraded pastures into biodiverse silvo-pastoral systems.	5,024	-	-	2,010	2,663	352
1.2.1.3 Producers restore degraded pastures into biodiverse cocoa agroforest systems.	15,166	4,550	8,341	-	2,275	-
1.2.1.4 Reforest degraded land on slopes (> 50%) into biodiverse, Close to Nature Planted Forests (CTNPFs).	2,812	-	-	2,109	562	141
<i>Output 1.2.2 Natural forest ecosystems and forest land conserved, restored and sustainably used.</i>	62,403	12,100	27,768	2,663	17,006	2,867
1.2.2.1 Finance Sustainable Community Enterprises (SCE) in indigenous territories within protected areas for natural forest ecosystems conservation and use.	5,123	1,178	2,254	-	1,076	615
1.2.2.2 Finance commercial Community Forest Management (CFM) sub-projects with business plans prepared by indigenous communities outside protected areas.	23,998	3,600	13,199	-	5,280	1,920
1.2.2.3 Finance commercial Community Forest Restoration (CFR) sub-projects with business plans prepared by indigenous communities outside protected areas.	33,282	7,322	12,315	2,663	10,650	333
<i>Output 1.2.3 Farmer cooperatives, producer organizations and community enterprises access high-value markets.</i>	1,802	402	-	-	-	1,400
1.2.3.1 Support cooperatives, producer organizations and indigenous community (SCEs and CRMR) to reach high-value markets.	82	16	-	-	-	65
1.2.3.2 Facilitate targeted business contacts between producer organizations and indigenous communities' enterprises with high value markets.	540	173	-	-	-	367
1.2.3.3 Support producer organizations and community enterprises in voluntary certification processes.	1,180	212	-	-	-	968

<b>COMPONENT 2: GOOD GOVERNANCE</b>	11,905	113	690	10,107	377	618
<b>Sub-component 2.1 Regional natural resources governance strengthened</b>	10,366	28	152	9,782	10	395
<i>Output 2.1.1 Environmental authorities present at the regional and the local level, including municipalities and indigenous territory governments (GTIs) strengthened.</i>	9,782	-	-	9,782	-	-
2.1.1.1 Hire new technical, extension and control personnel to work in the project area and indigenous territories.	6,804	-	-	6,804	-	-
2.1.1.2 Procure material, equipment and vehicles for regional and local institutions.	1,806	-	-	1,806	-	-
2.1.1.3 Grant public budget for operational expenses to regional/local environmental authorities, including Indigenous Territorial Governments.	1,172	-	-	1,172	-	-
<i>Output 2.1.2 Legal and normative framework up-dated.</i>	376	28	96	-	-	252
2.1.2.1 Analyze and up-date forestry, environmental and land-use normative framework at national level.	187	-	84	-	-	103
2.1.2.2 Support regional / local environmental authorities to actualize the normative framework.	78	-	12	-	-	66
2.1.2.3 Up-date the management plans of the two protected areas: BOSAWAS and Indio Maíz.	111	28	-	-	-	83
<i>Output 2.1.3 Public-private dialogue and cooperation strengthened.</i>	208	-	56	-	10	143
2.1.3.1 Facilitate sectoral public-private dialogue at regional and local level.	23	-	-	-	10	13
2.1.3.2 Strengthen the Production, Consumption and Marketing System (SPCC) at regional level.	185	-	56	-	-	130
<b>Sub-component 2.2 Local organization, territorial oversight and law enforcement strengthened</b>	1,539	86	539	325	367	223
<i>Output 2.2.1 Territorial governments and local organizations strengthened.</i>	700	86	391	-	-	223
2.2.1.1 Provide institutional strengthening to Indigenous Territorial Governments (GTIs).	621	62	373	-	-	186
2.2.1.2 Provide organizational support to local producer organizations (indigenous and non-indigenous).	33	10	-	-	-	23
2.2.1.3 Provide legal support to legalize producer organizations, cooperatives and community enterprises.	46	14	18	-	-	14
<i>Output 2.2.2 Forest, land-use and land use change administration, control and environmental law enforcement strengthened.</i>	839	-	148	325	367	-
2.2.2.1 Operate mobile units and fixed control posts to control timber transport.	195	-	102	94	-	-
2.2.2.2 Operate deforestation control and forest fire prevention brigades.	182	-	-	-	182	-
2.2.2.3 Operate indigenous people territorial defense and resources control brigades.	462	-	46	231	185	-
<b>COMPONENT 3: CAPACITY DEVELOPMENT FOR PRODUCTIVE LANDSCAPE RESTORATION AND FOREST CONSERVATION</b>	8,383	5,480	1,010	537	194	1,162
<b>Sub-component 3.1 Capacity development through training.</b>	1,029	881	-	-	-	148
<i>Output 3.1.1 Technical personnel, extension workers and promoters trained.</i>	145	76	-	-	-	70
3.1.1.1 Train technicians and extensionists in participatory land use planning (LUMP-b, TDPs-b).	67	33	-	-	-	33

3.1.1.2 Train stakeholders to use the up-dated sectoral legal and normative framework.	21	2	-	-	-	19
3.1.1.3 Train technicians and extension workers to implement Productive Landscape Restoration / Forest Conservation Models.	57	40	-	-	-	17
<i>Output 3.1.2 Producers and members of organizations/communities trained.</i>	883	805	-	-	-	78
3.1.2.1 Provide organizational, management, financial and marketing training to producers and members of organizations/communities.	22	4	-	-	-	18
3.1.2.2 Train producers in LUMP, TDP and Productive Landscape Restoration / Forest Conservation Models.	861	801	-	-	-	60
<b>Sub-component 3.2 Development of tools and instruments</b>	5,410	3,368	1,010	537	-	495
<i>Output 3.2.1 Information systems for climate resilient sustainable development and risk management are in place.</i>	5,410	3,368	1,010	537	-	495
3.2.1.1 Set up a deforestation and forest fires early-warning system.	504	353	-	-	-	151
3.2.1.2 Up-date and roll out the forest products administration and control system.	680	680	-	-	-	-
3.2.1.3 Monitor LULUC, deforestation and forest degradation.	2,244	2,087	-	-	-	157
3.2.1.4 Install and monitor permanent plots of the National Forest Inventory (NFI) in the CR.	911	-	456	456	-	-
3.2.1.5 Monitor biodiversity indicator species in 10% of plots of the NFI in the CR.	444	133	280	-	-	31
3.2.1.6 Monitor adaptation, mitigation and biodiversity impact of implemented productive landscape restoration/forest conservation models.	339	-	102	81	-	156
3.2.1.7 Monitor climate, hydro-meteorological (including tropical storms, hurricanes, droughts) and pest risk phenomena in order to inform and emit alerts.	288	115	173	-	-	-
<b>Sub-component 3.3 Development of public awareness</b>	1,944	1,231	-	-	194	518
<i>Output 3.3.1 The Public is more aware of the need for climate change adaptation, mitigation, landscape restoration and forest conservation.</i>	1,944	1,231	-	-	194	518
3.3.3.1 Develop and roll-out a public communication strategy.	216	22	-	-	22	173
3.3.3.2 Undertake environmental education in local schools and communities.	1,728	1,210	-	-	173	346
<b>PROJECT MANAGEMENT AND EVALUATION</b>	739	243	146	-	-	350
<i>Project Management Unit (PMU) in operation.</i>	567	186	146	-	-	235
Set-up and operate the PMU.	486	146	146	-	-	194
Strengthen MEFCCA/MARENA project oversight and steering capacities.	81	40	-	-	-	40
<i>Project M&amp;E and reporting system implemented. Environmental and Social Impact Assessment and Management and Mitigation Plan in place.</i>	172	57	-	-	-	116
Set-up the project monitoring, evaluation and reporting system.	88	41	-	-	-	47
Systematize findings and lessons learnt and communicate project results.	84	16	-	-	-	68
<b>INDEPENDENT EVALUATION</b> (Mid-term Review and Final Evaluation)	210	105	-	-	-	105
<b>TOTAL</b>	<b>115,692</b>	<b>26,139</b>	<b>37,955</b>	<b>18,999</b>	<b>24,316</b>	<b>8,282</b>

**Table 10 b** Portion of Project funding per Output channeled through Funds (Trust Funds and National Funds)

Activities	Total (\$US)	Trust Funds				
		FONADEFO	FAN	SPR-TF	CAR-TF	RBP-TF
Output 1.2.1 Degraded pasture- and rangeland restored	25,323,528	-	-	5,692,970	12,891,255	6,739,302
Output 1.2.2 Natural forest ecosystems and forest land conserved, restored and sustainably used	59,535,984	39,097,944	3,432,276	-	-	17,005,764
Output 2.1.3 Public-private dialogue and cooperation strengthened	10,077	-	-	-	-	10,077
Output 2.2.2 Forest, land-use and land use change administration, control and environmental law enforcement strengthened	366,930	-	-	-	-	366,930
Output 3.3.1 The Public is more aware of the need for climate change adaptation, mitigation, landscape restoration and forest conservation	194,400	-	-	-	-	194,400
<b>TOTAL</b>	<b>85,430,918</b>	<b>39,097,944</b>	<b>3,432,276</b>	<b>5,692,970</b>	<b>12,891,255</b>	<b>24,316,473</b>

### C.3 Capacity building and technology development/transfer (max. 250 words, approximately 0.5 page)

C.3.1 Does GCF funding finance capacity building activities?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
C.3.2. Does GCF funding finance technology development/transfer?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

101. Bio-CLIMAs' Outputs 1.1.1, 1.2.3 and its entire Component 3 have the objective to build capacities at the regional and local level, and to strengthen or develop tools and instruments to support climate resilient sustainable development, Component 3 costing 7.25% of total project cost. Community members and small farmers will receive training and will be provided with technical assistance to establish productive landscape restoration agroforestry and silvo-pastoral models, restore degraded land and manage their natural forest in an integrated way. Capacities will be built for participatory, sustainable land use management planning (LUMP), integrated territorial development planning (TDP) combined with business plans, added value, organization and marketing.

102. Information systems including a Deforestation and Forest Fire Early Warning System (SAT) and the Timber Tracking System (TTS) will be developed and technology will be transferred to regional and local environmental authorities and the LULUC and REDD+ M-MRV System operated by MARENA will be strengthened and regional and local authorities will be trained to strengthen their capacities for regional and local oversight, monitoring and forest law enforcement.

## D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

*This section refers to the performance of the project/programme against the investment criteria as set out in the GCF's [Initial Investment Framework](#).*

### D.1. Impact potential (max. 500 words, approximately 1 page)

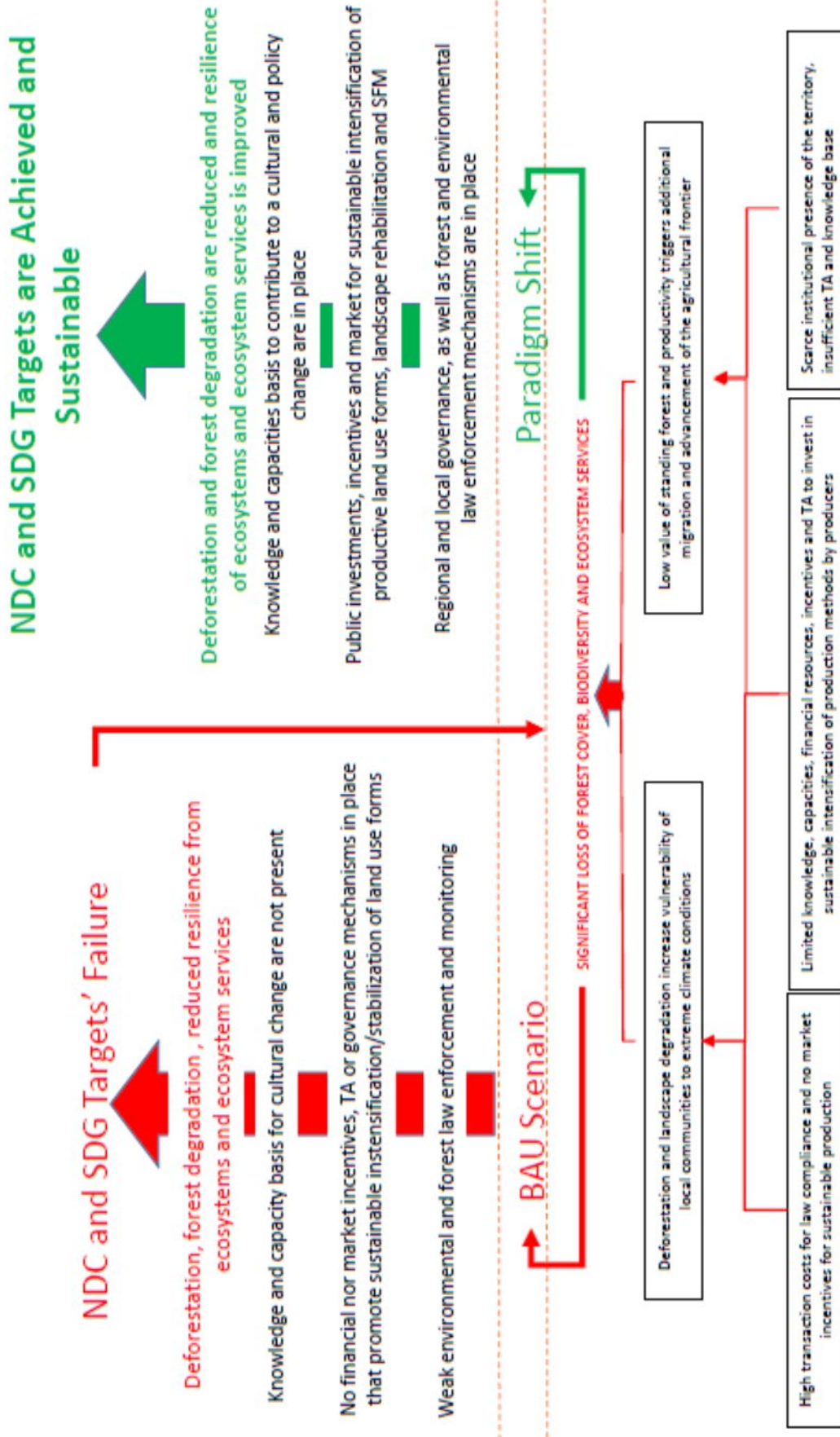
103. **While Bio-CLIMAs' impact is mainly on climate change mitigation, it will have significant adaptation co-benefits:** Mitigation (Impact Result M.4) The Project will contribute to a shift towards a low-emissions sustainable development pathway by creating an enabling environment (investment, knowledge transfer, markets and governance) for climate smart production, landscape restoration and forest conservation covering the most endangered forest areas in indigenous territories in the CR. It has been estimated that Bio-CLIMA will contribute to reduce 12.8Mt CO<sub>2eq</sub> in 7 years of project implementation, through better land use and sequestration in productive landscape restoration systems and through CTNPF, sustainable community enterprises and community based sustainable forest

management and forest restoration, including GHG emissions avoided through reduction of methane emission from improved livestock management. The total mitigation impact is estimated to be 47.3M tCO<sub>2</sub> eq in 20 years, assuming a conservative scenario of only 50% performance of the ERP.

104. Co-benefits on climate change adaptation Impact Results A.1 and A.4: Bio-CLIMA will contribute to increased-climate resilient development through following results: Resilience of ecosystems and ecosystem services will be improved on approximately 2.3 million ha of restored landscapes, forest and ecosystems in the CR with an emphasis on the BOSAWAS and San Juan Biosphere Reserves as also on endangered forests of 12 indigenous territories. Introduction of climate smart landscape restoration agricultural practices of cocoa in agroforestry systems and silvo-pastures, and improved land management tools and instruments will strengthen the adaptive capacity and reduce the exposure to climate risks of more than 51,100 direct project beneficiaries (0.8%/pop.), the most of them being indigenous and afro-descendant, living in marginalization and poverty, and 614,721 indirect beneficiaries (9.8% of the population).

105. Through Bio-CLIMA relevant institutional systems within MARENA, MEFCCA, INAFOR and the Regional Governments of the CR for land use and planning, environmental protection and forestry development will be strengthened through additional personnel, resources and capacities that will empower them to implement the integrated LUMPs and TDPs and promote the climate smart development approach the project will introduce. The Project will also improve the generation and use of climate information in decision making through support to INETER (climate risk and weather alerts); INFONA (Deforestation Early Warning and Fire Detection System) and MARENA (LULUC MRV). This information will feed the public awareness and information campaign Bio-CLIMA will also support.

106. Bio-CLIMAs innovative approach of integrating GEF-7 funds will also lead to impact on biodiversity conservation, land restoration and climate change mitigation; the latter impact area reinforced by the fact that the Project also includes finance from REDD+ Result Based payments from the FCPF until year 7 and other possible sources from year 8 onwards.



## D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

107. Scaling-up and replication: Once the productive landscape restoration models have been implemented successfully by farmers and communities and show positive financial returns and livelihood improvement they will be implemented at bigger scale on the same farm and community as agreed upon in the LUMP and the TDPs. This effect should spill-over to neighbors, the community and the whole indigenous territory with the aim to change the development paradigm in the whole CR. The innovative approach applied by the Project could also be applied to other areas of tropical rain forest and indigenous territories in the Central American Region where deforestation in some protected areas is advancing.

108. Sustainable Community Enterprises (SCE) that will be supported on a competitive basis as far as they are financially viable and socially sound will trigger community driven development initiatives to further develop community business and enterprises that capitalize the rich natural capital of which indigenous and afro-descendant peoples are owners and custodians to benefit their livelihoods and culture: the notion that forests and biodiversity are an enormous asset still needs to be put into concrete practice to benefit those that nowadays own it, but live in relative poverty.

109. Bio-CLIMA will be mobilizing important investment to create capacities and the enabling environment for REDD result-based payments within the overall framework of Nicaragua's Emission Reduction Program. Receiving a payment for forest and eco-system conservation will produce a change in the perception of the value of standing conserved forests and ecosystems for their owners and trigger the expectation of future income from landscape restoration and forest conservation, leading to a long-term virtuous transformation process.

110. Knowledge and learning: A significant investment will be done in training and capacity building to strengthen the knowledge basis at the local level, strengthen institutions and human capital basis.

111. Enabling environment: Through the Trust Fund to be set up with Project support, costs and risks to invest in climate smart agriculture and sustainable cattle ranching and forest conservation will be reduced, and market access and development improved. The Trust and REDD+ RBPs provide for long-term financially sustainable continuity of activities and removes barriers, thus catalyzes impact beyond the scope to the project.

112. The very high ambition to shift the prevailing development paradigm, which is based on extensive natural resources and landscape exploitation, towards climate smart, sustainable development can only be achieved if very deep cultural and behavioral transformation of attitudes and values within the society is achieved. A great effort will be done, and significant resources invested to inform and create awareness at regional and local level, to private operators, farmers and communities and to the general public in general. This will be done through an intensive and efficient public communication strategy and a specifically designed and targeted education program for schools and universities.

113. Regulatory environment: The project will contribute to the advancement of the national land use planning regulations in two steps: first operationalizing the LUMP and TDPs within project field operations and, second adjust and improve the LUMP through open and participatory dialogue process with the objective to update and improve the already existing regulation to be further enacted. The legal and normative framework that regulate forest management, harvesting and transport of forest products will be supported with the objective to propose simple and transparent legislation that farmers and communities can apply and comply with, removing red tape and reducing their transaction costs.

## D.3. Sustainable development (max. 500 words, approximately 1 page)

114. Environmental co-benefits: Bio-CLIMA will contribute to the protection of the most threatened and biodiversity rich ecosystems in Nicaragua: The BOSAWAS Biosphere Reserve has an area of approximately 2 million ha, 15% of the nation's total land area and as such the second largest rainforest in the western hemisphere, after the Amazon. The Indio Maíz Biological Reserve, which is part of the Rio San Juan Biosphere, is the second largest area of lowland rainforest reserve in Nicaragua and contains a higher number of tree, bird, and insect species than all of Europe. Taken together, these areas are home to some 35 different ecosystems, thirteen of the nation's 21 most important watersheds, and close to one

million inhabitants<sup>67</sup>. The livelihoods of these residents, mostly indigenous and afro descendant depend upon these forest and ecosystems, and they are highly vulnerable to impacts driven by climate change.

115. The international literature has widely documented the multiple ecosystem services provided by agro-forestry and silvo-pastoral production systems (AFS) indicating their suitability for restoring degraded soils<sup>68</sup>: Besides increasing resilience to climate change<sup>69</sup>, AFS can buffer the effects of extreme climate events, lower temperatures and provide alternative sources of food during droughts or floods<sup>70</sup>. Moreover, AFS are known to improve the microclimate<sup>71</sup>. They are also effective at controlling erosion and landslides and at producing organic matter and cycling nutrients<sup>72</sup>. Agroforests have also been shown to regulate the quantity and availability of water, improve water quality, increase groundwater recharge and provide riparian buffers<sup>73</sup>.

116. In difference to traditional forest plantations that are exposed to rising risks associated with climate change (including drought, forest fires, pests), Close to Nature Planted Forests (CTNPF) that are diverse in genotypes, species, structure and function are better able to adapt to changing environmental conditions<sup>74</sup> and are particularly suitable for the productive rehabilitation and restoration of degraded landscapes<sup>75</sup>. If managed properly, mixed planted forests from guided and enriched natural regeneration can offer higher productivity and ecological gains in terms of the provision of multiple ecosystems services<sup>76</sup> since biomass production and the delivery of ecosystem services and biodiversity improves<sup>77</sup>.

117. Social co-benefits: Regarding socio-economic benefits, productive agroforestry landscapes provide promising options for poverty reduction and for sustaining livelihoods<sup>78</sup>. These enable diversified production systems because of various intercrops, and reduce risks associated with pests and diseases, while also enabling a wider diversity of products, which reduces the ebb and flow of seasonal harvests<sup>79</sup>. Bio-CLIMA will specifically target families that have been pushed to migrate to the most remote and marginal zones of the Caribbean Region of Nicaragua. Project interventions will support these families to stabilize their livelihoods at the agricultural frontier procuring higher income from deforestation free, sustainable production schemes, which improve both their livelihood and climate resilience. Through the Trust Fund mechanisms, organizational and market access support Bio-CLIMA will support these vulnerable households to have more equitable and fair benefits from their produce. The Project will also attain improvements in the nutritional quality of the diets of participating families, as an indirect benefit resulting from increases in crop diversity aimed at reducing exposure to the risks of CC-related crop failure, and improved social cohesion as a result of support to community-based governance mechanisms. Improved livelihood resilience and sustainable agricultural family farming will be vital for the population of the CR to recuperate from the effects of the COVID-19 crisis.

118. Economic co-benefits: There is strong evidence that biomass production and delivery of ecosystem services improves with tree diversity and that forest plantations that are diverse in species, structure and function are better able to adapt to changing environmental conditions than monocultures.

<sup>67</sup> ER-PD, ibid

<sup>68</sup> Miccolis Andrew et al 2017: Restoration through agroforestry: options for reconciling livelihoods with conservation in the Cerrado and Caatinga biomes in Brazil. Cambridge University Press doi:10.1017/S001447971700013

<sup>69</sup> Jacobi, J., Schneider, M., Bottazzi, P., Pillco, M., Calizaya, P. and Rist, S. (2013). Agroecosystem resilience and farmer's perceptions of climate change impacts on cocoa farms in Alto Beni, Bolivia. *Renewable Agriculture and Food Systems* 30(2):170–183.

<sup>70</sup> Lasco, R. D., Delfino, R. J. P. and Espaldon, M. L. O. (2014). Agroforestry systems: Helping smallholders adapt to climate risks while mitigating climate change. *Wiley Interdisciplinary Reviews: Climate Change* 5:825–833.

<sup>71</sup> Kandji, S. T., Verchot, L. V., Mackensen, J., Boye, A., Noordwijk, M., Tomich, T. P., Ong, C., Albrecht, A. and Palm, C. (2006). Opportunities for linking climate change adaptation and mitigation through agroforestry systems. Chapter 13. In *World Agroforestry into the Future*, 113–123 (Eds D. Garrity, A. Okono, M. Grayson and S. Parrott). World Agroforestry Centre.

<sup>72</sup> Souza, M. de and Piña-Rodrigues, F. (2013). Desenvolvimento De Espécies Arbóreas Em Sistemas Agroflorestais para Recuperação de Áreas Degradadas na Floresta Ombrófila Densa, Paraty, RJ. *Revista Árvore* 37(1):89–98.

<sup>73</sup> Araújo Filho, J.A. de (2013). Manejo Pastoril Sustentável da Caatinga, 200. Recife, PE: Projeto Dom Helder Camara. Bargués Tobella, A., Reese, H., Almaw, A., Bayala, J., Malmer, A., Laudon, H. and Ilstedt, U. (2014). The effect of trees on preferential flow and soil infiltrability in an agroforestry parkland in semiarid Burkina Faso. *Water Resources Research* 50:2108–2123.

<sup>74</sup> Van Hensbergen 2006; Bauhus et al. 2010 in Verheyen et. al., 2015

<sup>75</sup> Lamb, 1998; Carnevale and Montagnini, 2002; Gunter et al, 2009 in Kanninen, 2010

<sup>76</sup> Erskine et al, 2006; Petit and Montagnini, 2006; Piotto, 2008 in Kanninen, 2010

<sup>77</sup> Nadrowski et al. 2010; Scherer-Lorenzen 2014 in Verheyen et. al., 2015

<sup>78</sup> Bene et al., 1977; Sinclair, 2004; Vira et al., 2015, in Miccolis A 2017

<sup>79</sup> Izac, a. M. N. and Sanchez, P. a. (2001). Towards a natural resource management paradigm for international agriculture: The example of agroforestry research. *Agricultural Systems*. 69(1-2):5–25.

Projected climate scenarios predict a much higher frequency of forest fires and a growing incidence of pests to which monocultures are much more vulnerable compared to mixed, sustainable, multi-functional “Close-to-Nature Planted Forests” (CTNPF) that will be introduced through this project. Through Bio-CLIMA sustainability of land management will be enhanced, including improvements in soil fertility and organic matter content, as a result of climate-smart agriculture and landscape restoration, including increases in the numbers of trees on farms and pastureland, and a reduction in the use of fire. Bio-CLIMA will strive to stabilize migration flows, not only at the agricultural frontier, but also migration from the countryside to the cities and abroad.

119. Gender-sensitive development: All activities within Bio-CLIMA, like for example the LUMPs at farm level or TDP at community level, as also the formulation of the SCEs or the CFMR plans will ensure women’s participation and accounting for their specific needs in decision-making. The leadership role of women in land management and agriculture will be promoted and women’s participation in agroforestry, silvo-pastoral, restoration and forest management activities will be enhanced. The use and conservation of traditional knowledge in the use of non-timber forest products will be especially fostered and taken into consideration when financing the competitive forest conservation initiatives by communities.

120. Women are the main transmitters of the culture they play a significant role in the dynamics related to women, gender and land rights. Women’s participation in institutional decision-making, agriculture, conservation, restoration and climate adaptation and mitigation are essential for the sustainability of families and communities. They understand the reforestation and preservation of land have significant implications for defending regional autonomy and their main concern relates to inheriting a healthy environment to future generations. The traditional knowledge of the Caribbean region is guarded by the women of indigenous and afro descendant communities, who are fortified by their strong will and connection to mother earth. Indigenous and afro-descendant peoples’ identity, spiritual, health practices are tied to the land, if they are displaced, their identity and culture are severely impacted.

121. The project’s approach to land in the Caribbean region will be based on intercultural gender analysis, so that it reflects individual and collective land rights and indigenous understandings of territory, which encompass the whole environment and its fundamental connection to indigenous identities as well as spiritual, health and other practices, in addition to sustainable use for subsistence and income-generation. This approach is also particularly helpful in understanding the women’s collective rights and their activism to defend their land rights. The Caribbean coast of Nicaragua is a racially and ethnically diverse region that has faced some of the highest rate of violence against women and children in the country.

#### D.4. Needs of recipient (max. 500 words, approximately 1 page)

122. Vulnerability of the country: According to the 2016 Standard of Living Survey by the National Development Information Institute, general poverty in Nicaragua dropped from 29.6 to 24.9 percent between 2014 and 2016; while in the same period extreme poverty fell from 8.3 to 6.9 percent. Despite this progress, poverty remains high. Nicaragua is still one of Latin America’s least developed countries facing persistent high fiscal deficits and public debt which are a major barrier to making effective and long-term public-sector investments,<sup>80</sup> with the COVID-19 crisis putting severe additional strains on the country. Should Nicaragua be able to grow at 3.6 percent in per capita terms (its average growth since 2010), it would still take 79 years in order to reach the average GDP per capita of Latin America and the Caribbean<sup>81</sup>. Nicaragua is undertaking a strong effort to continue reducing poverty through targeted public investment, international cooperation and alliances with the private sector.

<sup>80</sup> Nicaragua Country Profile. <http://www.worldbank.org/en/country/nicaragua/overview>, visited November 11, 2018.

<sup>81</sup> Nicaragua. Systematic Country Diagnostic. World Bank 2017.

123. Vulnerable groups and gender aspects: The Caribbean Region, which has been singled out within Nicaragua's National Human Development Plan as a high priority, since it contains 54% of the national territory most of Nicaragua's forestland, the majority of the nation's indigenous populations, a quarter of the country's most vulnerable people and accounts for the large majority of national deforestation. While it is true that both poverty and extreme poverty have been halved since 2005, Nicaragua is the second poorest country in the Western Hemisphere, and the RACCS, RACCN and Río San Juan department have the lowest human development indices (0.50-0.55) of Nicaragua. Bio-CLIMA will put in place a bottom-up approach targeted at indigenous, non-indigenous and afro-descendant people in which each family will first plan on-farm development and investment through a LUMP and a business plan: none of these instruments will be done without full involvement of all family members, securing that rights and needs of women and also the perspectives of the young people are being duly considered. Women headed households will be prioritized as beneficiaries.

124. Need for strengthening institutions and implementation capacity: The Government of Nicaragua is well aware of the urgent need to strengthen institutional presence in the CR, the Alto Wangki y Bocay to reduce deforestation and therefore plans to invest significant budgetary resources in governance, institutions and state-building measures through the Bio-CLIMA Project are a priority to create an enabling environment for sustainable development and investment.

#### D.5. Country ownership (max. 500 words, approximately 1 page)

125. Through Bio-CLIMA Nicaragua seeks not only to implement the country's international commitments under the United Nations Framework Convention on Climate Change (UNFCCC) in the areas of climate change mitigation and adaptation, but also seeks to accomplish the three main goals of the Convention on Biological Diversity (CBD) which are conservation of biodiversity; the sustainable use of biodiversity; and the fair and equitable sharing of the benefits arising from the use of genetic resources.

126. Bio-CLIMA is fully aligned with the National Human Development Plan 2018-2021<sup>82</sup> and the National REDD+ Strategy and will directly implement following four strategic lines of action of the National Climate Change Mitigation and Adaptation Policy<sup>83</sup>: Nr.1."Development of agriculture that is resilient to actual climate variability and future climate change, with actions that favour low GHG emissions"; Nr.5."Use and conservation of ecosystem services to achieve low-carbon sustainable development that is adapted to climate change", Nr.6."Conservation, restoration and rational use of forests, as the promotion of planted forests in forest land-use zones" and Nr.7."Promote knowledge, research, finance and information about climate change mitigation and adaptation, as the modernization and strengthening of alert and early-warning systems".

127. In its NDCs<sup>84</sup> Nicaragua proposes to implement following concrete measures in the AFOLU sector: i.) Encourage agro-ecological production of permanent crops under tree shade, more resilient to the impacts of climate change, ii.) Reduce extensive cattle grazing and introduce silvo-pastoral systems, iii.) Establish planted forests on idle or degraded forest land, prioritizing the use of natural regeneration of native tree species, iv.) Extend the use of bio-digesters, v.) Restore and conserve ecosystems and ecosystem services, taking advantage of adaptation and mitigation synergies, with special emphasis on watersheds management and risk reduction, as conservation of biological diversity and protected areas. Through these measures, which will be implemented also by Bio-CLIMA, Nicaragua will raise its carbon absorption capacity by 14% in relation with the reference scenario to 2030<sup>85</sup>.

128. Likewise, Bio-CLIMA will support following priority measures to improve the countries capacity to adapt to CC are listed in the NDCs: i.) Modernization of hydro-meteorological services to produce relevant climate information and early warning alerts<sup>86</sup>, ii.) Raise the efficiency for the protection

<sup>82</sup> Ejes del Programa Nacional de Desarrollo Humano 2018-2021. Diciembre 2017. Managua.

<sup>83</sup> Política Nacional de Mitigación y Adaptación al Cambio Climático. Gobierno de Reconciliación y Unidad Nacional. Managua, Nicaragua 2018.

<sup>84</sup> Contribución Nacionalmente Determinada a la Mitigación del Cambio Climático (NDC) de la República de Nicaragua antes la Convención Marco de Naciones Unidas sobre Cambio Climático (CMNUCC). 2018.

<sup>85</sup> *ibid*

<sup>86</sup> Density of weather stations in the CR and precipitation is shown in Annex 1, Figure 14

of the biosphere reserves through land-use-planning and reforestation, iii.) Cooperation to strengthen capacities in climate finance, iv.) Capacity development, access to technologies and finance for the agricultural sector, and v.) Implement programmes to manage prioritized ecosystems in a resilient way through a landscape approach.

129. Within Nicaragua's REDD+ Strategy, Bio-CLIMA has been designed to be complementarily and act synergistically with the Emission Reduction Programme (ERP) that Nicaragua agreed with the Forest Carbon Partnership Facility. Bio-CLIMA is being developed since April 2018 by the "*Grupo Técnico Interinstitucional*" lead by MARENA, with the active participation of MHCP (as NDA), MEFCCA, INTA, INETER, INAFOR and the technical support of the FAO. Full ownership of the country is demonstrated by the fact that the Government of Nicaragua will co-finance Bio-CLIMA through loans with the CABEL and the GCF, backed by a sovereign guarantee; as also by allocating the entire GEF-7 STAR allocation to co-finance Bio-CLIMA.

130. Capacity of accredited / executing entity to deliver:

CABEL is a multilateral bank for the development of Central America. CABEL's mission is to promote economic integration and the balanced economic and social development of its founding member countries, attending and aligning itself with their national policies and development priorities. CABEL supports public and private development projects that create jobs and contribute to improving the productivity and competitiveness of its member countries, as well as increasing human development indicators in the Region. During the last 60 years, CABEL's support to the Region has resulted in credit approvals of more than US\$38.05 billion and disbursements of more than US\$30.39 billion. Derived from CABEL's mission and vision, CABEL's Institutional Strategy 2020-2024 focuses on four axes: (i) Regional Integration Axis, through regional initiatives in specific sectors, financing and promoting the region as an integrated market. (ii) Human Development and Social Inclusion Axis, which generates social capacities that lead to achieving the objective of improving the well-being and quality of life of the Central American region. (iii) Transversal Axis of Environmental and Social Sustainability, through the approval of programs and projects that favor social appropriation and that address the need to preserve the environment. (iv) Transversal Gender Equity Axis, through programs and projects that promote equal opportunities and economic and social conditions in the population.

131. MARENA will be responsible for overall coordination and the together with MHCP, responsible for the execution of the Project, with implementation support of MEFCCA, INTA, INETER, INAFOR and the Regional and Territorial Governments of the Caribbean Coast, the Alto Wangki y Bocay. They will be supported by national and international implementing partners and entities. All these institutions are experienced in executing rural development projects with financial support of different cooperation partners including the World Bank, the European Union, Inter-American Development Bank, IFAD, and CABEL. Bilateral cooperation projects include Germany, Norway, Switzerland, among others. Lessons learnt, especially the flaws, and best practices will be capitalized by Bio-CLIMA. In this regard the sustainable livestock program BOVINOS (21.7 M € - European Union) which is being implemented also in the Municipality of Nueva Guinea (RAACS); as also the program to support climate change adaptation for coffee and cocoa producers NICADAPTA (37.05 M US\$ – IFAD/CABEL), benefitting also indigenous territories of the RAACN and the RAACS, will be especially relevant to build upon. Both projects are being executed in alliance with relevant national and regional institutions through local implementation structures. In difference with both these projects that benefit members of agricultural cooperatives and indigenous communities, Bio-CLIMA will target both indigenous and non-indigenous vulnerable households at the deforestation front within protected areas.

132. The MHCP has solid capacities and long experience in the execution of multi-sectoral projects and has a reliable financial management system with very low risks in execution. As per presidential mandate the MHCP negotiates and contracts loans with financial institutions, represents Nicaragua in the governing bodies of the World Bank, the Inter-American Development Bank (IADB) and the CABEL, and is the NDA for the GCF. The bi- and multi-lateral project portfolio managed and executed directly by the MHCP ranges between US\$10.0 million and 186.0 million and include the following examples among

other projects: a.) Contingency loan for Natural Disasters (US\$186 million), b.) Budget support for the year 2019 (US\$100 million), and c.) Integration Program for the Border Zone, (US\$78.0 million).

133. CABEL has performed a thorough assessment for MHCP and MARENA financial management capacities to be Executing Entities of the Bio-CLIMA project. In this regard, it has concluded that both institutions have an organizational structure, specialized staff and the tools and mechanisms to carry out the required processes and actions to develop this role in the project. Likewise, both have experience in the execution of projects with the magnitude and similar nature of the Bio-CLIMA project.

134. In particular, the MHCP is the governing body of public finances and among its functions it contracts public debts on behalf of the State of Nicaragua. In the last ten years, the MHCP has contracted USD 6,456.4 million in loans for different sectors. The MHCP has a solid capacity and experience in the implementation of multi-sectoral projects and a reliable financial management system that ensure low risks levels in their execution. The General Coordination of Programs and Projects Office (CGPP for its acronym in Spanish), in companion with other areas of the MHCP, such as: the Climate Finance Office, External Cooperation, General Directorate of Financial Management, and the State Procurement and Contracting Directorate, among others, coordinates the execution of the projects efficiently.

135. MARENA on the other hand, according to its functions assigned by law, executes the climate change and environment portfolio with a national level presence. MARENA has a Climate Change Office with a highly qualified staff in adaptation, mitigation, social and environmental safeguards and carbon accounting. Likewise, the General Planning Directorate has an external cooperation area that, in coordination with the Administrative Directorate, monitors the execution of its projects. MARENA is the political and operational focal point to the GEF, Euroclima and currently holds the pro tempore presidency of the Central American Commission for Environment and Development (CCAD for its acronym in Spanish).

136. Engagement of civil society organizations and relevant stakeholders: Both the National REDD+ Strategy as well as the ERP and its Benefit Sharing Plan (Annex 24) have undergone intensive consultation and participation processes in which relevant actors and stakeholders have been involved during the last years. This process is described and extensively documented in Annex 7 and all the meetings that were documented can be found at the hyperlink: <http://www.marena.gob.ni/Enderedd/componentes/dialogos-y-consultas-para-la-preparacion/>

#### D.6. Efficiency and effectiveness (max. 500 words, approximately 1 page)

The following table summarizes some key indicators that demonstrates the cost-effectiveness the Bio-CLIMA Project will achieve both, on relation with the total investment, as also with the GCF funding:

**Table 11** Project cost effectiveness indicators

Cost effectiveness indicators	Over total investment cost (including beneficiary work force cost)	Over total Financial Investment Cost	Over the GCF contribution (grant + credit)	Over the GCF grant
Cost per direct beneficiary (US\$/ha)	291.3	191.9	106.3	43.3
Cost per direct beneficiary (US\$/person)	3437.5	2264.0	1254.3	511.5
Cost per indirect beneficiary (US\$/person)	285.7	188.2	104.3	42.5
Cost per carbon (US\$/tCO <sub>2</sub> eq, 50% emission reduction target)	3.7	2.4	1.4	0.6

137. The estimated investment costs per beneficiary, area and carbon sequestration reflect the technical particularities of the proposed models to be implemented and the characteristics of the production units in the region in terms of land tenure and demographic composition. In general, these

values are in the average ranges for investment projects in the region considering that the beneficiaries will be groups of small, medium and large producers. The project efficiency will be significantly improved by the social, environmental, institutional and economic externalities generated by the implementation of the resilient modules, the building capacities and the institutional strengthening of the local, regional and national actors involved in the project.

138. Co-financing: It is expected that US\$64,094,029 million, equivalent to 55.40% of the total cost of Bio-CLIMA, will be financed through GCF resources: these would be put together by a US\$26,139,067 million grant (22.59%); and a US\$37,954,962 (32.81%) loan component, backed by Sovereign Guarantee from the Government of Nicaragua. Co-financing would be provided by an additional loan from CABEL of US\$18,999,530 million (16.42%), a grant from the Global Environmental Facility (GEF-7) in the amount of US\$8,282,213 (7.16%). The direct co-finance to Project activities from REDD+ Result Based Payments from the World Bank FCPF of up to an amount of US\$24,316,473 (21.02%) constitute only a fraction of the financial resources that shall be leveraged as REDD+ RBPs by the Project until year 20 of up to US\$236.5 million<sup>87</sup> (see also Table 8).

139. The GCF grant, which accounts for only 22.59% of total project cost, would be invested mainly in incentives for small-holders and indigenous communities at the agricultural frontier to transform their agricultural practices and restore landscapes; as also in tools, instruments and activities to generate and gather climate relevant information for strategic decision making and monitoring

140. The incentives for landscape restoration through silvo-pastoral systems to be canalized through the Trust Fund, as also the budgetary support for capacity building, good governance and institutional strengthening would be financed by mainly through loan finance. Project management costs account for less than 0.82%. The Logical Framework and Financial and Economic Model included in Annex 3 and Annex 4, presents the detailed tentative costs per activity and financing source.

141. Economic<sup>88</sup> and financial<sup>89</sup> viability: Estimates of the project's economic and financial indicators for a 20-year period, a social discount rate of 8%<sup>90</sup>, and valuing the ecosystem services of carbon sequestration and avoided emissions<sup>91</sup> for improved forest governance, show that the investment would have positive returns. The incremental financial and economic NPV would be US\$641,830,701 and US\$1,024,274,776 respectively. Likewise, the value of the financial and economic IRR of the entire project would be 19.7% and 30.9%; Benefit/Cost ratio of 1.8 and investment payback period of 12 years, respectively. As a result of the project implementation, each productive unit would have an additional net income of US\$276.7 per benefitted hectare/year. The following table shows estimates of the economic and financial indicators of the models and community sub-projects (SCE, CFM, CFR) proposed by the project: These estimates of the economic and financial indicators are in the range of returns on and other comparable investment projects carried out in other Latin-American countries. The following table shows the aggregated and disaggregated indicators

<sup>87</sup> 50% emission reduction target

<sup>88</sup> Analysis developed using social prices according to the conversion factors used by the Nicaraguan Public investment system

<sup>89</sup> Analysis developed using market prices

<sup>90</sup> Referential value to evaluate the feasibility of the public investment in the frame of the Nicaraguan Public investment system

<sup>91</sup> Referential values (ERPD): Carbon market price (5 USD/tCO<sub>2</sub> eq); Carbon social price (30 USD/tCO<sub>2</sub>).

**Table 12** Project financial and economic indicators

	Financial Indicators				Economic Indicators			
	NPV (US\$)	IRR (%)	B/C	Payback (years)	NPV (US\$)	IRR (%)	B/C	Payback (years)
<b>Bio-CLIMA Project (Aggregation)</b>	641,830,701	19.7%	1.8	12.03	1,024,274,776	30.9%	2.7	10.2
<b>Agroforestry - cocoa</b>	25,786,888	16.3%	1.9 4	8.5	38,133,237	20.2%	2.6	7.35
<b>Silvopasture</b>	18,045,694	16.4%	1.8 6	8.9	17,094,202	17.2%	2.3	8.85
<b>Close to Nature Planted Forest</b>	22,448,711	11.2%	1.1 1	16.7	52,534,193	16.7%	1.6	15.0
<b>Sustainable community enterprises</b>	2,273,931	10.2%	1.1 0	9.9	5,711,626	13.4%	1.3	8.76
<b>Community forest management</b>	111,491,487	21.6%	1.9 3	7.3	131,233,027	25.3%	2.3	5.6
<b>Community forest restoration</b>	193,801,765	13.5%	1.3	14.0	230,016,130	15.1%	1.4	13.5

142. The sensitivity analysis shows that the investment return is sensitive to hypothetical changes in some key variables such as benefitted farms' income (which is directly related to the variation of prices and yields), investment cost and reduction emission target. The results of this analysis are presented in the following table. The results show the level of elasticity of the return on investment considering hypothetical changes of the most important variables related to the proposed investment operation.

**Table 13** Sensitivity analysis

Variables	Hypothetical changes	FIRR	EIRR
Income variation (productive models)	-10%	17.0%	27.0%
	-5%	18.4%	28.8%
	5%	21.1%	32.6%
	10%	22.4%	34.5%
Variation in cost of production (productive models)	-10%	22.1%	33.7%
	-5%	20.9%	32.1%
	5%	18.7%	29.4%
	10%	17.7%	28.1%
Investment cost variation	Base scenario - total costs (financial + non financial)	19.7%	30.9%
	Including only financial costs	23.9%	39.4%
	-10%	20.9%	32.8%
	-5%	20.3%	31.7%
	5%	19.3%	29.8%
	10%	18.8%	28.9%
Reduction emission target	100%	32.7%	32.5%
	75%	25.7%	31.6%
	50%	19.7%	30.9%
	25%	14.4%	30.4%

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## E. LOGICAL FRAMEWORK

This section refers to the project/programme's logical framework in accordance with the GCF's [Performance Measurement Frameworks](#) under the [Results Management Framework](#) to which the project/programme contributes as a whole, including in respect of any co-financing.

### E.1. Paradigm shift objectives

Please select the appropriated expected result. For cross-cutting proposals, tick both.

- ☒ Shift to low-emission sustainable development pathways  
☒ Increased climate resilient sustainable development

### E.2. Core indicator targets

Provide specific numerical values for the GCF core indicators to be achieved by the project/programme. Methodologies for the calculations should be provided. This should be consistent with the information provided in section A.

E.2.1. Expected tonnes of carbon dioxide equivalent (t CO <sub>2</sub> eq) to be reduced or avoided (mitigation and cross-cutting only)	Annual	2.4 M t CO <sub>2</sub> eq
	Lifetime	47.3 M t CO <sub>2</sub> eq in 20 years
E.2.2. Estimated cost per t CO <sub>2</sub> eq, defined as total investment cost / expected lifetime emission reductions (mitigation and cross-cutting only)	(a) Total project financing	<u>115,692,245</u>
	(b) Requested GCF amount	<u>64,094,029</u> USD
	Grant: US\$26,139,067	
	Loan: US\$37,954,962	
	(c) Expected lifetime emission reductions	<u>47.3</u> Mt CO <sub>2</sub> eq
	(d) Estimated cost per t CO <sub>2</sub> eq (d = a / c)	<u>2.4</u> USD / t CO <sub>2</sub> eq
	(e) Estimated GCF cost per t CO <sub>2</sub> eq removed (e = b / c)	<u>1.4</u> USD / t CO <sub>2</sub> eq
E.2.3. Expected volume of finance to be leveraged by the proposed project/programme as a result of the Fund's financing, disaggregated by public and private sources (mitigation and cross-cutting only)	(f) Total finance leveraged	<u>51,598,216</u>
	(g) Public source co-financed <sup>92</sup>	<u>27,281,743</u>
	(h) Private source finance leveraged <sup>93</sup>	<u>24,316,473</u>
	(i) Total Leverage ratio (i = f / b )	<u>0.81</u>
	(j) Public source co-financing ratio (j = g / b)	<u>0.43</u>
	(k) Private source leverage ratio (k = h / b)	<u>0.38</u>
E.2.4. Expected total number of direct and indirect beneficiaries, (disaggregated by sex)	Direct	51,100 (51% of total female: 26,061)
	Indirect	614,721 50.1% of total are female beneficiaries: 307,684
	For a multi-country proposal, indicate the aggregate amount here and provide the data per country in annex 17.	
E.2.5. Number of beneficiaries relative to total population (disaggregated by sex)	Direct	0.8% (Expressed as %) of country(ies)
	Indirect	9.9% (Expressed as %) of country(ies)
	For a multi-country proposal, leave blank and provide the data per country in annex 17.	

<sup>92</sup> As this template does provide a specific space for other grant finance than GCF grants. Therefore, this figure includes the GEF-7 grant as well as the CABEL loan; both of them being of public, as opposed to private finance.

<sup>93</sup> These are the REDD+ Result Based Payments from the FCPF that co-finance Project activities until year 7 and benefit indigenous communities and land owners directly as a result of community and private emission reduction efforts. This figure is only a fraction of the US\$ 236.5 million RBPs that shall be unlocked by Bio-CLIMA, as shown in Table 8

### E.3. Fund-level impacts

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term Year 4	Final Year 7	
M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks	M4.1 Tonnes of carbon dioxide equivalent (t CO <sub>2</sub> eq) reduced or avoided (including increased removals) - forest and land use	National System of Measurement, Monitoring Reporting and Verification (SNM-MRV)	0 (MtCO <sub>2</sub> eq)	6.7 MtCO <sub>2</sub> eq	12.8Mt CO <sub>2</sub> eq	Methodology applied is: removal and avoided emission in a with-project situation – removal and avoided emission in a without project situation. Please refer to Annexes 22.a, 22.b Project lifetime: 20 years; annual emission reductions: 2.4 tCO <sub>2</sub> eq. Lifetime emission reductions: 47.3 tCO <sub>2</sub> eq (assuming a performance of the ERP of only 50% emission reductions )

### E.4. Fund-level outcomes

Expected Outcomes	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
M9.0 Improved management of land or forest areas contributing to emissions reductions	M9.1 Hectares of land or forests under improved and effective management that contributes to CO <sub>2</sub> emission reductions	National SNM-MRV System	0 ha	1,265 (in 000 ha)	2,319.4 (000ha)	Total areas to be benefitted with the improvement of the forest governance

### E.5. Project/programme performance indicators

*The performance indicators for progress reporting during implementation should seek to measure pre-existing conditions, progress and results at the most relevant level for ease of GCF monitoring and AE reporting. Add rows as needed.*

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term Year 4	Final Year 7	
Beneficiary family income from deforestation free, climate adapted sustainable land use forms in the project region has been increased.	Yearly monetary and non-monetary benefit of beneficiary families (indigenous and non-indigenous), disaggregated by gender, age and ethnicity	Project beneficiary household survey	Baseline to be determined at Project onset	15% increase	30% increase	Stability for prices and markets for sustainable sourced products and services.
Enhanced environmental and territorial governance contributes to the improvement of the investment climate for the private sector, NGOs, and the indigenous communities to invest in deforestation free, climate adapted sustainable land use forms.	Share of private / NGO sector co-financing into total Agroforestry and Silvo-pastoral Trust Funds budget.  Co-financing private and NGO partners in Indigenous Community Enterprises (SCE, CFM, CFR)	Share of private and NGO sector co-finance reported by the Trustee	CAF-Trust Funds 0	5%	10%	Political will to incentivize sustainable production systems; and willingness for dialogue and collaboration continues.
			SSP- Trust Fund 0	5%	10%	
			Average private/ NGO co-finance share in Community Sub-Projects 0	2%	10%	
The general public, institutions, media and other relevant actors have access to and use the environmental and climate related information systems set up/improved with Project support.	Number of citations and references published and accessed to the Environmental Information System, if adequate disaggregated by gender, age & ethnicity	Media reports from MARENA Communications  Access to the Environmental Information System	Number at project start  Data at project onset	Increase 12%	Increase 20%	Dialogue and good coordination between national, regional and local governmental entities continues.
Intercultural gender equality and participation, decision making of young and adult indigenous, afro descendant and non-indigenous women have increased.	% of women participating, deciding on and benefiting equitably from: family income and spending, climate-resilient production, strengthened governance mechanisms and capacity development; disaggregated by gender, age & ethnicity	Project beneficiary household survey and qualitative methods (e.g. Focus Discussion Groups) disaggregated by gender, age & ethnicity	Data collected from baseline at Project onset	Increase 15%	Increase 25%	Existing GCF guidelines, government policies and project approach to gender equality are applied in planning, resource allocation, implementation and M&E.

E.6. Activities				
Activities	Description	Deliverables		
		Indicator	Unit	Value
COMPONENT 1: CONSERVING AND PRODUCING FOR LIFE.				
Subcomponent 1.1 Land use and management planning for landscape restoration, forest conservation and climate-resilient production.				
Output 1.1.1 Land use/management plans formulated; and restoration/conservation agreements signed/formalized with beneficiaries.				
1.1.1.1 Assist small producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).	During the first two years of Project implementation, individual producer families and indigenous communities will be provided with intensive technical assistance to undertake participatory intercultural and gender sensitive land use and resources management planning on their farms, productive land units or community territories. Land-use zones (sustainable production, restoration and conservation) will be identified on the field and mapped, as also the implementation of desired productive landscape restoration and forest conservation models planned and agreed upon. During this land use planning exercise special attention will be given on natural resources and water conservation, as well as protecting biodiversity and building biological connectivity and biological corridors. Furthermore, a business plan will be designed for each farm, productive unit or indigenous territory, which may include some or all of the productive landscape restoration and forest conservation models. TDP may include Sustainable Community Enterprises with their business plans. Finally, the maps and the agreements regarding the land use, restoration and conservation commitments, as also the carbon rights, will be formally signed in a legally binding agreement with the farmer, land owner and/or indigenous community in order to make any next step for further support by the Project. All agreements will have gender action plans (GAPs) in conformity with overall project GAP that ensure equitable participation of young and adult, indigenous and non-indigenous women in decision-making, especially from women-headed households, and that LUMPs, TDPs and BPs contribute to increasing intercultural gender equalities.	Number of LUMPs with BPs formulated by small producers. Percentage of women and men beneficiaries by age and ethnicity.	# %	6444
		Evidence of gender action plans (GAP) that conforms with the overall project GAP	y/n	
1.1.1.2 Assist indigenous communities to formulate Territorial Development Plans (TDPs) including business plans (BPs).		Number of TDPs with BPs for SCEs/CFMR sub-projects formulated by indigenous communities. Percentage of women and men beneficiaries by ethnicity.	# %	107
		Evidence of GAP that conforms with the overall project GAP	y/n	
1.1.1.3 Assist middle sized producers to formulate Land Use-Management Plans (LUMPs) with business plans (BPs).		Number of LUMPs with BPs formulated by middle sized producers and percentage of women and men beneficiaries by ethnicity.	#, %	1714
		Evidence of GAP that conforms with the overall project GAP	y/n	
1.1.1.4 Facilitate celebration and formalization of landscape restoration and forest conservation agreements.		Number of conservation / restoration agreements/contracts signed and legalized.	#, %	8265
		Evidence of GAP that conforms with the overall project GAP	y/n	
Sub-component 1.2 Investments in landscape restoration, forest conservation and climate-resilient production.				
Output 1.2.1 Degraded pasture- and rangeland restored.				
1.2.1.1 Small producers (farm size < 35 ha) restore degraded pastures into climate resilient, biodiverse sustainable silvo-pastoral systems.	Technical assistance (TA) and inputs will be provided to restore degraded pastures into sustainable silvo-pastoral systems (SSPS) on land with slope under 50%. Small farmers with pasture area of less than 10 ha will be provided with grants, while medium sized producers with pastures of more than 10 ha will be provided with concessional credits through the Trust Fund to be determined further.	Small producers pasture area restored to SSPSs.	ha	4858
1.2.1.2 Middle sized producers (farm size > 35 ha) restore degraded pastures into biodiverse silvo-pastoral systems.		Middle sized producers pasture area restored to SSPSs.	ha	7286
1.2.1.3 Producers restore degraded pastures into biodiverse cocoa agroforest systems.	Technical assistance, inputs and clones of improved, climate adapted cocoa plants will be provided to small producers to establish up to 2 ha of cocoa agroforest per family.	Pasture- and rangeland area restored to Cocoa AFS.	ha	8850
1.2.1.4 Reforest degraded land on slopes (> 50%) into biodiverse, Close to Nature Planted Forests (CTNPFs).	Technical assistance and inputs will be provided to demarcated and protect land with slope steeper than 50% in order to allow the natural restoration process to happen. TA and inputs will be provided to establish	Pasture/rangeland area restored to CTNPF.	ha	40215

	simple communal nurseries of native species if necessary and undertake enrichment planting.			
Output 1.2.2 Natural forest ecosystems and forest land conserved, restored and sustainably used.				
1.2.2.1 Finance Sustainable Community Enterprises (SCE) in indigenous territories within protected areas for natural forest ecosystems conservation and use.	Sub-projects with business plans prepared by indigenous communities within BOSAWAS and Indio Maíz core areas and its buffer zones shall be selected on a competitive basis and financed through the RBP Trust Fund in order to support Sustainable Community Enterprises (eco-tourism, ethno-tourism, handicrafts, indigenous goldsmith-ship/jewelry, among other initiatives) up to a maximum financial contribution of US\$ 54,000 / project. Each SCE project should grant the conservation of approximately 3000 ha of natural forest ecosystem.	Number of SCE sub-projects financed.  % of SCE sub-projects with gender action plans (GAP); Evidence that conforms with overall project GAP	#  %  y/n	95
1.2.2.2 Finance commercial Community Forest Management (CFM) sub-projects with business plans prepared by indigenous communities outside protected areas.	CFM sub-projects prepared by indigenous communities on the basis of the TDPs and business plans will be financed on a competitive basis by FONADEFO to undertake sustainable, commercial forest management and harvesting activities. Each CFM sub-project could have a maximal financial contribution of US\$ 245,553 and protect approximately 800 ha per project.	Number of CFM sub-projects financed.  % of SCE sub-projects with GAP; Evidence that conforms with overall project GAP	#  %  y/n	98
1.2.2.3 Finance commercial Community Forest Restoration (CFR) sub-projects with business plans prepared by indigenous communities outside protected areas.	CFR sub-projects prepared by indigenous communities on the basis of the TDPs and business plans will be financed on a competitive basis by FONADEFO to undertake sustainable, commercial forest restoration/reforestation activities. Each CFR project could have a maximal financial contribution of US\$ 202,313 and protect an area of approximately 800 ha per project.	Number of CFR sub-projects financed.  % of SCE sub-projects with GAPs; Evidence that conforms with overall project GAP	#  %  y/n	165
Output 1.2.3 Farmer cooperatives, producer organizations and community enterprises access high-value markets.				
1.2.3.1 Support cooperatives, producer organizations and indigenous community (SCEs and CRMR) to reach high-value markets.	Training, expert support and coaching will be provided to support mixed-gender, men- or women-only farmer cooperatives or producer organizations and indigenous communities to improve the quality, to add value and enhance the merchandising to their products and services in order to reach and sell to high value markets. This will also be done by supporting the participation of these organizations and communities in national and international fairs, business events and through the facilitation of commercial exchanges, in collaboration with the corporate private sector already active in Nicaragua (Ritter Sport). Support to get fair-trade, sustainable forest management and similar international certification will be provided during the first years. These will promote women's empowerment and intercultural gender equality through equitable participation, decision-making, and distribution of resources and benefits. Indigenous and non-indigenous male and female youth and adult women will equitably participate in and benefit from these opportunities, including by receiving training and translation/interpretation if needed.	Number of organizations that participated in fairs or business events, disaggregated by gender, age and ethnicity of individual participants/ organization	#, %	12
1.2.3.2 Facilitate targeted business contacts between producer organizations and indigenous communities' enterprises with high value markets.		Number of commercial visits/exchanges facilitated, disaggregated by gender, age and ethnicity of individual participants/ organization.	#, %	12
1.2.3.3 Support producer organizations and community enterprises in voluntary certification processes.		Number of organizations/cooperatives /enterprises to certify their products/services, disaggregated by gender, age and ethnicity of individual participants/ organization.	#, %	12
COMPONENT 2: GOOD GOVERNANCE.				
Sub-component 2.1 Regional natural resources governance strengthened.				
Output 2.1.1 Environmental authorities present at the regional and the local level, including municipalities and Indigenous Territorial Governments (GTIs) strengthened.				
2.1.1.1 Hire new technical, extension and control personnel to work in the project area and indigenous territories	The budget of these institutions will be increased through the credit component of the Project to grant enough financial	Number of new annual contracts to hire technicians at local level	#, %	1080

	resources to hire personnel, procure vehicles and equipment for the local offices of the environmental authorities with legal competencies at the regional, local and protected areas level (including MARENA, INAFOR, SERENA, municipalities and Indigenous Territorial Governments). These institutions are severely understaffed and do not have the minimum resources to undertake their mandatory duties of regulation and oversight of such a vast territory like the CR of Nicaragua. This includes also to grant enough financial resources through the public budget that is allocated to these institutions for operational expenditure (fuel, vehicle maintenance, stationery, etc.). Priority will be placed on hiring indigenous and local personnel and an equitable proportion of women and men, and, if possible, who speak at least two local languages.	disaggregated by gender and ethnicity		
2.1.1.2 Procure material, equipment and vehicles for regional and local institutions.		Number of institutions equipped.	#	13
2.1.1.3 Grant public budget for operational expenses to regional/local environmental authorities, including Indigenous Territorial Governments.		Number of local institutions with increased operative budget.	#	13
<b>Output 2.1.2 Legal and normative framework updated.</b>				
2.1.2.1 Analyze and update forestry, environmental and land-use normative framework at national level.	Expert support to analyze normative gaps and needs for up-dating of norms and procedures (e.g. FONADEFO and Trust Funds operation, sustainable commercial use of timber and non-timber forest products within protected areas and its buffer zones, among others) will be provided, presented and discussed in a participatory manner through workshops and facilitation, involving all relevant stakeholders, in order to produce drafts to be enacted by relevant authorities. These will use equitable participatory processes for adult and young women and men of the different territories and promote intercultural gender equality and women's empowerment.	Number of legal instruments updated (at national level) Evidence that they promote intercultural gender equality	# y/n	6
2.1.2.2 Support regional / local environmental authorities to actualize the normative framework.		Number of institutions supported to update legal instruments (at regional and local level). Evidence that they promote intercultural gender equality	# y/n	6
2.1.2.3 Update the management plans of the two protected areas: BOSAWAS and Indio Maíz.	Expert support will be provided to up-date these management plans, including ecological, social and geospatial studies, as well as participatory processes involving all male and female stakeholders within and around protected areas, especially the indigenous communities and Indigenous Territorial Governments and promote intercultural gender equality and women's empowerment.	Number of management plans that have been updated. Evidence of provisions for intercultural gender equality	# y/n	2
<b>Output 2.1.3 Public-private dialogue and cooperation strengthened.</b>				
2.1.3.1 Facilitate sectoral public-private dialogue at regional and local level.	Expert and facilitation support will be provided to support MEFCCA and partner institutions to convene relevant public, private and community actors to improve the climate for sustainable investment opportunities between the private sector and indigenous communities and farmer cooperatives. Dialogue will also be sought to improve the law enforcement and control system with community and private participation. These mechanisms will improve intercultural gender equality and there will be equitable participation of men and women from indigenous and non-indigenous groups. Documents produced in local languages	Number of public private round tables supported.  Evidence of provisions for intercultural gender equality	# y/n	13
2.1.3.2 Strengthen the Production, Consumption and Marketing System (SPCC) at regional level.	Investment facilities will be created to strengthen the SPCC in the CR through three Trust Funds: The Result Based Payment, the Silvopastoral and the Cocoa-Agroforest Trust Funds that will be administered by a private financial service provider. To this end, expert, legal and	Number of instruments (Trust Funds) agreed upon and operative.	#	3

	facilitation support will be provided to involve relevant public, community and private actors in the governance and oversight mechanisms of these funds that will contribute to intercultural gender equality and have equitable participation of men and women from indigenous and non-indigenous groups.			
Sub-component 2.2 Local organization, territorial oversight and law enforcement strengthened.				
Output 2.2.1 Territorial governments and local organizations strengthened.				
2.2.1.1 Provide institutional strengthening to Indigenous Territorial Governments (GTIs).	All 23 GTIs will be provided with organizational, legal and administrative support in order to improve their ability to exercise the territorial authority the law entitles them to. Participatory institutional diagnose and analysis will be done to identify needs and demands for each one of the GTIs in order to provide targeted organizational support through training, expert support, workshops and other activities. Special care will be taken on including and empowering young men and women and adult women and integrating mechanisms that promote intersectional gender equality and women's participation.	Number of GTIs strengthened  Evidence of content that promotes intersectional gender equality	#  y/n	23
2.2.1.2 Provide organizational support to local producer organizations (indigenous and non-indigenous).	Local producer organizations will be provided with organizational support to improve their governance and oversight mechanisms, their administrative and financial procedures, quality enhancement of their products and services, bankability and others. For this, expert support will be provided for diagnosis and for participatory organizational improvement processes, including workshops, exchange visits and similar. Organizational improvements will promote intercultural gender equality and women's participation.	Number of organizations created/strengthened.  Evidence of content that promotes intercultural gender equality  % women members and decision-makers disaggregated by ethnicity	#  y/n  %	26
2.2.1.3 Provide legal support to legalize producer organizations, cooperatives and community enterprises.	Targeted legal support will be provided to local producer organizations, cooperative and community enterprises to legalize and/or update their legal status as an organization in order to allow them to sign contracts, interact in commercial and financial transaction and acquire credit.	Number of organizations legalized.	#	26
Output 2.2.2 Forest, land-use and land use change administration, control and environmental law enforcement strengthened.				
2.2.2.1 Operate mobile units and fixed control posts to control timber transport.	Expert and intelligence support, equipment, vehicles and operational expenses will be covered to operate mobile control units and fixed control posts to control timber transports, deforestation and forest fire prevention brigades, as also to operate indigenous people territorial defense and resources control brigades in indigenous communities within the Caribbean Region.	Number of control units operative.	#	13
2.2.2.2 Operate deforestation control and forest fire prevention brigades.		Number of control operatives/check points that have been supported.	#	72
2.2.2.3 Operate indigenous people territorial defense and resources control brigades.		Number of community surveillance operations supported.	#	144
COMPONENT 3: CAPACITY DEVELOPMENT FOR PRODUCTIVE LANDSCAPE RESTORATION AND FOREST CONSERVATION.				
Subcomponent 3.1 Capacity development through training.				
Output 3.1.1 Technical personnel, extension workers and promoters trained				
3.1.1.1 Train technicians and extensionists in participatory land use planning (LUMP-b, TDPs-b)	Technical personnel, extension workers and promoters from environmental authorities and public extension. services present at the regional and local level will be trained in the use and implementation of the new land and territory planning instruments (LUMP-b and the TDP-s), legal and normative framework and Productive Landscape Restoration Models that will be introduced by the Project. Special attention will be given not only in the technical content, but in methodologies.	Number of trainers trained (gender and ethnicity disaggregated).	#, %	540
3.1.1.2 Train stakeholders to use the up-dated sectoral legal and normative framework.		Number of persons trained (gender and ethnicity disaggregated).	#, %	172
3.1.1.3 Train technicians and extension workers to implement Productive Landscape Restoration / Forest Conservation Models		Number of persons trained (gender and ethnicity disaggregated)	#, %	463

	including Innovation and Research Farms, Farmer Field Schools, in order to train these trainers. Emphasis will be given also to participatory use and business planning approaches, holistic farm, landscape and ecosystem planning, climate resilience, biological connectivity and biodiversity conservation, inter-cultural gender equality and implementing the gender action plan (GAP), among others.			
Output 3.1.2 Producers and members of organizations/communities trained.				
3.1.2.1 Provide organizational, management, financial and marketing training to producers and members of organizations/communities	Farmers, producers and members of organizations (indigenous and non-indigenous) will be trained in the use and implementation of the new land and territory planning and resources conservation instruments (LUMPs, BPs and the TDPs), legal and normative framework and Productive Landscape Restoration Models that will be introduced by the Project. These training will involve training session, workshops, exchange visits to Innovation and Research Farms and Farmer Field Schools and other appropriate methodologies. Capacity building will integrate intercultural gender equality and implementing the gender action plan (GAP), among others. Budget and other resources will be allocated to facilitate indigenous and non-indigenous women's participation in training events	Number of persons trained (gender and ethnicity disaggregated).	#, %	173
3.1.2.2 Train producers in LUMP, TDP and Productive Landscape Restoration / Forest Conservation Models.		Number of persons trained (gender and ethnicity disaggregated).	#, %	8158
Subcomponent 3.2 Development of tools and instruments.				
Output 3.2.1 Information systems for climate resilient sustainable development and risk management are in place.				
3.2.1.1 Set up a deforestation and forest fires early-warning system.	Expert support and training will be provided to make sure that the diverse remote sensing tools and instruments publicly available are known by relevant institutions, chosen and used and put into practice by regional and local environmental authorities and stakeholders in the CR.	System is in operation.	y/n	1
3.2.1.2 Up-date and roll out the forest products administration and control system.	Simplified norms for forest use and administration will be streamlined into a user-friendly informatics forest administration and control system. This will have to be designed, adjusted and run by national, regional and public offices in charge of forest administration, control and oversight. Expert support, software, equipment and training will have to be provided.	System is in operation.	y/n	1
3.2.1.3 Monitor LULUC, deforestation and forest degradation.	MARENAS REDD+ Units' operation will be supported to be able to continue undertaking the LULUC, deforestation and forest degradation monitoring activities. The project will support consultant salaries and operational expenses.	Bi-annual reports from the MARENA's ENDE REDD+ Team.	#	12
3.2.1.4 Install and monitor permanent plots of the National Forest Inventory (NFI) in the CR.	Nicaragua is about to undertake its Second National Forest Inventory which will involve not only forest cover and socio-economic variables, but also climate change, biodiversity and other new variable. This encompasses 70 plots that will be financed by the Bio-CLIMA project in the Caribbean Region.	Permanent plots installed.	#	70
3.2.1.5 Monitor biodiversity indicator species in 10% of plots of the NFI in the CR.	Expert support, training and methodological assistance and operational expenses will be provided to MARENA, INETER and the regional environmental authorities to improve their capacities to monitor the impact of the land use planning instruments and models introduced by the Project on climate change adaptation, mitigation and biodiversity conservation and gender in the CR.	Number of capacity building and training events, on the job training and monitoring events/visits.	#	12
3.2.1.6 Monitor adaptation, mitigation and biodiversity impact of implemented productive landscape restoration/forest conservation models.		Evidence of intercultural gender approach	y/n	22

3.2.1.7 Monitor climate, hydrometeorological (including tropical storms, hurricanes, droughts) and pest risk phenomena in order to inform and emit alerts.	Expert support, training, methodological assistance and operational expenses will be provided to INETER and IPSA in partnership with the regional environmental authorities to be in capacity to monitor climate, hydro-meteorological phenomena and pest risk, to inform the public and emit alert bulletins.	Number of bi-annual reports emitted.	#	12
<b>Subcomponent 3.3 Development of public awareness.</b>				
<b>Output 3.3.1 The Public is more aware of the need for climate change adaptation, mitigation, landscape restoration and forest conservation.</b>				
3.3.3.1 Develop and roll-out a public communication strategy.	Expert support, consultancy services will be financed to develop and roll out a public communication strategy at regional level in the CR. This will emphasize indigenous knowledge, needs and rights regarding conserving and restoring biodiversity and will promote intercultural gender equality. Strategy will be plurilingual and will be developed using participatory methods	Strategy document developed and quarterly reports of communication campaign implementation. Evidence of intercultural gender equality content.	y/n  y/n	24
3.3.3.2 Undertake environmental education in local schools and communities.	Expert support to update the environmental curricula of the public school's system will be provided. Training of trainers (teachers) will be financed to include environmental education and relevant climate change mitigation/adaptation and biodiversity conservation into their curricula. Curricula will reflect indigenous and non-indigenous knowledge, needs and rights and will promote intercultural gender equality.	Environmental curricula in schools of the CR includes biodiversity and climate issues and number of education events successfully held. Evidence of intercultural gender equality content. Equitable participation male and female youth/ children in events.	y/n  y/n  %	216

#### E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

143. Monitoring, reporting and evaluation will be conducted in accordance with CABEI and GCF procedures by the project team and the CABEI Country Office (CABEI CO). The Logical Framework Matrix provides impact and outcome indicators for project implementation, along with their corresponding means of verification. The M&E plan includes: an inception report, project implementation reviews, a mid-term review and final evaluation. The following sections outline the principal components of this plan. The project's M&E plan will be presented and finalized at the project's Inception Meeting following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

144. Project start MARENA and MHCP will call for a Project Inception Workshop will be held within the first 2 months of project start, involving all institutions and actors with assigned roles in the project organization structure, the CABEI CO and, where appropriate, public entities and technical advisors, as well as other possible implementing partners and stakeholders. The Inception Workshop is crucial to building ownership of the project results and to plan the first-year annual work and procurement plan.

145. Annual Project Report This key report will be prepared by the Project Executing Entities MARENA and MHCP and will be consolidated by the Project Manager and approved by the Project Steering Committee to monitor progress made since project start and for the previous reporting period. This report includes, but is not limited to, reporting on progress made toward project objective and project outcomes – each with indicators, baseline data and end-of-project targets (cumulative); project outputs delivered per project component (annual); lessons learned/good practices; and annual work plan and other expenditure reports. It will include reporting on co-financing of activities from funding sources different to the GCF which shall be reported by MARENA and the MHCP to the AE CABEI, which will report these to the GCF.

146. Mid-term of project review The project will undergo an independent mid-term review at the mid-point of project implementation. The mid-term review will determine progress being made towards

the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The final MTR report will be available in English.

147. End of Project An independent final evaluation will take place three months prior to the closure of the project, undertaken in accordance with CABEI and GCF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term review, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits. The final evaluation will also provide recommendations for follow-up activities and requires a management response. The final report will be cleared by CABEI and will be approved by the Project Steering Committee. CABEI CO will include the planned project terminal evaluation in the evaluation plan.

148. Monitoring and Reporting on Land Use and Land Use Changes The National Measurement, Monitoring, Reporting and Verification System (SNM-MRV) is a robust and transparent system that provides information for the design and implementation of land-use management policies, forest governance and natural resource management. In the context of REDD+ activities, the SNM-MRV will allow the monitoring and reporting of LULUC activities, incorporating monitoring and MRV processes. Its main function is to have periodic information on results achieved through national measures and actions, linked to conservation, sustainable forest management and restoration, for strengthening forest governance, as well as provided measurable, reportable and verifiable data for international estimations and reports on forest emissions and absorptions.

## F. RISK ASSESSMENT AND MANAGEMENT

### F.1. Risk factors and mitigations measures (max. 3 pages)

149. Given that the project has an explicit focus on forest conservation through best-practice landscape restoration and forest management, the risk of adversely affecting conservation values is limited. However, because of the work with non-indigenous farmers, communities and indigenous peoples in areas of critical habitats and given the external factors prevalent in the project region, the overall project risk has been rated as "moderate" and measures have been designed to ensure risks are kept to a minimum.

150. The design of the project builds on the comprehensive safeguards determined for the National REDD+ Strategy and the ERP that comply with Warsaw guidance. Furthermore, a commitment to active and effective participation by local stakeholders and indigenous communities through effective multi-level landscape governance will limit the potential for human rights abuses and negative impacts on marginalized communities. The Government of Nicaragua, BCIE, the GEF and the FAO have a history of collaboration in the areas of conservation and sustainable development, and the project is firmly in line with constitutional and national development objectives that mitigate the risks identified, establishing a strong platform for cooperation and limited risk. Financial and operational risks have also been identified and specific mitigation measures incorporated into the design accordingly.

151. Nicaragua has signed and ratified the UN Convention against Corruption and has institutionalized this mandate through the National Commission for the Integral Development of a Good Public Management<sup>94</sup>, the Special Law to Fight Corruption No.581/2006<sup>95</sup>, and the Code of Conduct for

<sup>94</sup> Ley 581/2010. Comisión Nacional para el Desarrollo Integral de la Buena Gestión Pública (2010). Acuerdo Presidencial No.227-2010. La Gaceta, Diario Oficial No.185. 29.09.2010

<sup>95</sup> Ley No.581/2006. Ley Especial del Delito de Cohecho y Delitos contra el Comercio Internacional e Inversión Internacional

Public Servants of the Executive Branch<sup>96</sup>. These instruments build a solid basis to allow for the transparent and efficient use of public resources.

152. Furthermore, CABEL's anti-fraud, anti-corruption controls are immersed in the due diligence, monitoring, auditing, supervision, and procurement rules under which operations are analyzed, approved and executed, proper follow up is held. If red flags or issues arise, CABEL addresses this red flags or issues, mitigating them or incorporating new controls, every decision is taken on a case by case basis. All CABEL contracts also include anti-fraud, anti-corruption clauses, which allow CABEL to investigate matters in case it is necessary and if prohibited practices arise take measures and sanction parties. As a development bank all of our controls are intended to secure that all our operations meet its development objectives.

153. Antifraud, Anticorruption and Other Prohibited Practices Policy and Manual is applied and observed in all CABEL's activities. CABEL has implemented several mechanisms (web, email, voice mail, among others) in which reports and allegations of irregularities, unethical situations, the commission of prohibited practices or regulatory breaches in the use of its funds or resources administered by CABEL can be submitted. Reports about environmental and/or social issues or damages related to CABEL's projects can be reported as well. Any natural or juridical person, including CABEL's staff members may submit a report. Anonymously reports are permitted.

154. On the other hand, the Caribbean Region is one of the prioritized zones by the current Nicaraguan government considering its geographic, productive and development potential; as well as its existing natural resource base and current environmental problems that affect it, such as the accelerated process of deforestation and recurrent natural phenomena. This is why the need for financial resources in these territories has been one of the main actions carried out by the Nicaraguan authorities to preserve, conserve and protect the cultural and natural heritage and existing livelihoods in these geographical zones.

155. The Project will invest a very big effort to provide technical assistance and support to put the indigenous and afro descendant communities in the capacity to formulate ambitious sub-projects to conserve, restore and manage forest landscapes in their territories within and outside both protected areas (BOSASWAS and Indio Maíz – see maps 2 a and 3), which include most forest covered areas in the Caribbean Region of Nicaragua. Through its operational structure, the Bio-Clima Project will guarantee an effective and inclusive socialization and promotion process with the intention that the inhabitants / communities can know the objectives of the project, the eligibility requirements to participate in it, as well as the productive areas and services that will be provided by it, with the intention of generating in the short and medium term a portfolio of initiatives to be financed by Bio-Clima.

156. These efforts to be carried out by the Bio-CLIMA Project will be complemented by the investments that the Nicaraguan government has recently made in support of the development of the Caribbean Region; These efforts include the improvement of the road network, access to energy sources, water and sanitation projects, development of artisanal fishing, productive and rural development, among others. These synergies will guarantee an economic reactivation sustained on the basis of equitable social, economic and environmental development.

157. Similarly, and at the time of project start-up, it is estimated that the needs for financial services and technical assistance will be significant considering the current limitations of mobility and commercial

<sup>96</sup> Código de Conducta Ética de los Servidores Públicos del Poder Ejecutivo. Decreto Ejecutivo 35-2009. La Gaceta, Diario Oficial No. 113, 18.06.2009.

flow to these territories, considering the current COVID-19 pandemic, and therefore, the need for financial resources could be increased.

158. A phased approach to the funds allocated for sub-projects has been considered in the design of financial flows as showed in the Table below:

**Table 14** National Funds Yearly Allocation

Total (USD)	FONADEFO AND NATIONAL ENVIRONMENTAL FUND (FAN)						
	Year						
	1	2	3	4	5	6	7
42,530,220	0	2,977,115	10,186,570	10,632,555	9,356,648	6,379,533	2,997,798

**Selected Risk Factor 1**

Category	Probability	Impact
Technical and operational	Low	Medium
Description		
The productive land restoration modules, specifically the cocoa agroforestry and silvopastoral systems may be that attractive to the beneficiaries, so that they may want to expand them further into non-deforested areas and cause further increase in deforestation.		

**Mitigation Measure(s)**

Bio-CLIMA will provide strong technical, financial and market incentives to promote sustainable land intensification to put indigenous and non-indigenous farmers in a position to optimize their land use and to improve their livelihood on the land that is already deforested and degraded. On the other hand, Bio-CLIMA will support and strengthen local governance, especially of the indigenous territory governments to monitor and control the land-use plans and territorial development plans to be formulated and agreed upon. On the other hand, REDD+ Result Based Payments will accrue and benefit those indigenous and afro-descendant owners of the land and re-inforce their role as custodians of their forestlands. Finally, Bio-CLIMA will strengthen LULUC monitoring and control capacities/systems, strengthen public forest law enforcement, and will also support community deforestation and forest fire control brigades.

**Selected Risk Factor 2**

Category	Probability	Impact
Governance	Medium	Medium

**Description**

Bio-CLIMA will be implemented in indigenous and afro-descendant territories some of them with the presence of non-indigenous, poor settler families (or third parties), most of them that have been living in peaceful neighborhood for years and even decades, but there have also been events of violent encroachment by settlers. On the other hand the project could lead to adverse impacts on enjoyment of the rights of the affected population and particularly of marginalized groups because duty-bearers might not have the capacity to meet their obligations or because right holders might not have the capacity to claim them.

**Mitigation Measure(s)**

Nicaragua's National Constitution and Law 455 provide a very solid framework to protect land tenure rights of indigenous and afro-descendant people. Nevertheless, some right holders may not have the full understanding and the capacities to exercise and defend them. The Project will strengthen the capacities of the Indigenous Territory Governments (GTIs) to exercise and defend their land rights and natural resources and will invest important effort to facilitate peaceful co-habitation agreements between GTIs and "third parties", and to formalize them within a "win-win situation" Bio-CLIMA will also invest in strengthen the capacities, technological and logistical means of local public institutions to enforce the law. On the other hand, Bio-CLIMA will be in close coordination with the ongoing World Bank financed PRODEP II project

which is investing important resources on land conflict resolution and titling, especially in the Alto Wangki y Bocay Region.

**Selected Risk Factor 3**

Category	Probability	Impact
Other	Low	Low

Description

The project will develop land use and management plans (LUMPs) and territorial development plans (TDP) to optimize land uses, restore degraded pastureland and reduce the pressure on forest areas and increase protection of forest fragments at the farm and production landscape level. Some of these land-use plans may place restrictions on existing and future land uses. Although the project does not envisage physical displacement, land-use restrictions may increase the possibility of economic displacement, especially for poorer and marginalized individuals, who may not have resources to change current production practices.

Mitigation Measure(s)

Bio-CLIMA includes specific actions to address this risk. First, land-use planning will only take place through participatory processes and support will be given for the inclusion of representatives of marginalized groups. Second, the productive restoration and forest conservation models offer higher income and market opportunities than the current practices. This includes supporting technical and business planning assistance in the short-term and strengthening supply chains of deforestation-free produce to increase income in the medium-term. These target different groups of stakeholders, including small-scale farmers and communities. In addition, REDD+ result-based payments will be channeled to communities and indigenous people, many of whom are amongst the poorest and most vulnerable.

**Selected Risk Factor 4**

Category	Probability	Impact
Governance	Medium	Medium

Description

The project depends on actions of multiple institutions and stakeholders, ranging from different national line ministries, regional and local governments including indigenous territorial governments, agricultural producers and communities. Sub-optimal coordination, duplication and overlap of responsibilities between and within the different levels may undermine implementation and pose an operational implementation.

Mitigation Measure(s)

Project Component 2 has been designed to strengthen the institutional setting in the CR and to improve governance and inter-institutional coordination will address this risk. Its outcome 2.3 specifically includes the strengthening of dialogue and decision-making mechanisms to engage key stakeholders at all levels under the lead of the SDCC and the Territorial and Indigenous Governments of the Caribbean Coast, the Alto Wangki and Bocay.

**Selected Risk Factor 5**

Category	Probability	Impact
Technical and operational	Low	Low

Description

Institutions in the CR of Nicaragua are relatively young and weak. The lack of institutional culture and stability could lead to underperformance in Project implementation and/or to inadequate use of funds.

Mitigation Measure(s)

Bio-CLIMAs' Project Components 2 and 3 shall invest huge resources and important efforts to strengthen the institutional capacities of public and communal actors of the CR at the regional and the local the levels in order to support the overall State building and strengthening measures that are being undertaken by the Government of the Region. To guarantee transparent and efficient use of financial resources, the bulk of resources that shall be invested through Bio-CLIMA shall be channeled through five different financial mechanism, each one with its own governance and oversight structures that are independent from one each other (please refer to Trust Funds (3) and National Funds (2) governance and oversight in Section B.4). All of them are governed by inter-institutional instances with the participation of various sectors and actors to allow societal participation, accountability and transparency. The Project will specifically support a public-private dialogue to establish the CAR and SPR Trust Funds through which major Project investments will be channeled to beneficiaries. These Trust Funds will result from a private-public dialogue that will be facilitated

by a neutral trusted party in the role of an honest broker, which will make sure that legitimate and independent participation of relevant stakeholders is granted, and that internal cross-checks and balances guarantee transparency and accountability in the use of the funds. These principles shall be operationalized in the Trust Fund contracts and Operational Manuals as result of dialogue, negotiation and consensus process that shall take place during the first year or Project implementation. Furthermore, for this operation, the executing entities of the Republic of Nicaragua will be applying CABEL's procurement policy, which includes antifraud/anticorruption controls. The Integrity and Compliance Office with the support of other technical areas of CABEL will offer training to improve capacities of executing agencies and their personnel regarding AML/CFT, Integrity and Sanctions. Also, technical areas of CABEL will be in charge of including antifraud, anticorruption controls in the different operational manuals, guidelines, and procedures that will be designed and applied for this operation.

#### Selected Risk Factor 6

Category	Probability	Impact
Other	Low	Low
Description		
Uncertainties with regard to future REDD+ results-based payments are a potential financial risk for the full implementation of the National REDD+ Strategy (ENDE REDD+). While this may not directly affect Bio-CLIMA which will have secured this co-financing until year 2025 through the Emission Reduction Programm Agreement (ERPA) to be signed with the World Bank FCPF, it poses a potential risk factor for the sustainability of Bio-CLIMAs' actions and its impacts.		
Mitigation Measure(s)		
The GCF, BCIE and GEF investments aim to provide the means and the know-how to communities and producers for sustainable landscape restoration, production and the enforcement of land-use zoning (LUMP and TDP) that will trigger changes in land use trajectories in order to secure emission reductions and the payments from the FCPF. The financial risk associated with this is low. However, if the ERPA with the World Bank FCPF failed to materialize for any reason, Nicaragua would offer these emission reductions to another multilateral or private entity, including the REDD+ window of the GCF, in order to secure the sustainability of Bio-CLIMA's activities and the implementation of national ENDE REDD+ Strategy under the UNFCCC REDD+ process. If these REDD+ RBPs fail to materialize the financial sustainability of the ENDE REDD+ will be at risk. Nonetheless, the project will minimize these risks supporting the preparation of a diversified REDD+ RBP portfolio for Nicaragua from year 2025 onwards.		

## G. GCF POLICIES AND STANDARDS

### G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

159. Bio-CLIMA has been thoroughly assessed by CABEL and due to its complementarity with the ERP approved by the FCPF, also with the World Bank Group safeguards and operational policies. As to CABEL's Environmental and Social Management Manual (SIESMAS), since Bio-CLIMA will be implemented on indigenous territories, it must be rated Environmental and Social Risks Category "A" (high risk). Furthermore, the socio-political context in Nicaragua is sensitive because of the social protests unleashed since the forest fires in Indio Maíz in 2018 and the social unrests these protests triggered which caused a critical political moment in Nicaragua. There is also an accumulation of tensions stemming from conflicts between indigenous communities and agricultural frontier colonist, land grabbing, coupled with competing interests and demands of different land holders and people without land title, and illegal logging activities. An Environmental and Social Management Framework (ESMF) and related instruments according to this context that have been prepared included in Annex 6 and has been published on MARENA's website since February 2020 at: <http://www.marena.gob.ni/Enderedd/otros/proyecto-bio-clima/>.

160. Environmental. The Project is not likely to generate a wide range of significant adverse risks and impacts on the environment. The risks and impacts themselves are mostly temporary, predictable and/or reversible. Serious adverse effects are not expected. The effects of the Project on areas of high value or sensitivity are expected to be positive, given the environmental and conservation objectives of the Project, reducing emissions from deforestation and forest degradation, effects on biodiversity and

living natural resources. Furthermore, Bio-CLIMA will foster the adoption of sustainable and productive landscape restoration and forest conservation modules. Some examples of potential adverse risks and impacts on the environment are related to the implementation of infrastructure such as the opening of new paths, that can generate risks such as the opening of new deforestation fronts, run-off, the removal of the vegetation, the loss of biodiversity due to the invasion of non-native species and environmental degradation due to canopy openings and the increased risk of fires. Forest management and restoration activities could generate risks associated with the use of fertilizers and pesticides in nurseries, and hydrocarbon pollution by the use of machinery. Risks related to the cocoa and livestock production chain can also be associated with the purchase of seeds and seedlings, or even the use of timber for fencing. Most of these risks and impacts are predictable and specific mitigation actions reduce their probability of occurrence. However, in order to ensure that the risk does not become an impact, MARENA has developed environmental safeguard instruments, such as the ESMF, the Integrated Pest Management Guidelines (IPMG), the Guidelines for a Biodiversity Action Plan (GBAP) and Guidelines for the Forest Management Plans (GFMP) and others that are included in Annex 6.

161. Social. The Bio-CLIMA Project per se is not likely to cause significant negative impacts on human populations. On the contrary, it is expected to have positive impacts on vulnerable and systematically excluded groups through the improvement of sustainable livelihoods, the increase in income and opportunities to access high value, fair trade markets. Bio-CLIMA will specifically target the improvement of the livelihoods of indigenous and non-indigenous people living from small land properties. Furthermore, Bio-CLIMA is also expected to enhance livelihoods through a more coordinated support from various public programs that would generate increased revenues from sustainable practices (cocoa agroforestry, small and medium scale sustainable silvo-pastures, sustainable forest use and conservation). There will be no situation of land acquisition or resettlement, and any activity that could produce such impacts will be screened out of the project activities. Furthermore, a strong focus will be put on the capacity building of the social and safeguards team of the Project Management Unit of MARENA, which will foster the continuity of social and environmental considerations throughout and after the life cycle of the Project.

162. Land tenure. As for the social impacts associated to the ER Program and the Bio-CLIMA Project, the socio-political context of Nicaragua regarding land tenure is very sensitive, as a result of the accumulation of tensions stemming from conflicts between indigenous communities, and non-indigenous farmers that have been occupying land for longer time periods, and agricultural frontier colonist. Land grabbing, illegal and informal land leases, coupled with competing interests and demands of different land holders and settlers without a land title are very frequent. Furthermore, there are risks identified related to indigenous territories and forms of forest administration; restriction to indigenous populations of traditional access to natural resources, and local social conflicts for the distribution of the benefits from the Emission Reductions. All these structural factors can contribute to create potential conflicts in the project area, which shall be addressed by various specific project activities including Activity 1.1.1.4 and several interventions to improve dialogue and governance, and to strengthen the local institutions and indigenous governments included in Project components 2 and 3.

163. In order to mitigate or avoid the risks and impacts mentioned, an Environmental and Social Impact Assessment (ESIA) will be carried out by MARENA at the beginning of the Project when the exact areas of implementation, investments and actions have been defined and agreed upon with the beneficiaries within the prior informed consent process. Only then Bio-CLIMA will formulate and implement site-specific measures, as well as ESIA and Indigenous Peoples Plan (IPP) in the GTI. The ESIA will consider all relevant environmental and social risks and impacts in each Territorial Development Plan in the GTIs, and Land Use Management Plan on-farm level, as also for Forest Management and Restoration Plans, and Management Plans for the protected areas. The ESIA will also include an analysis of any situation of conflict or violence in the selected areas, and the specific measures to avoid or mitigate the impact according with ESS guidelines.

164. MARENA has also developed a Process Framework (PF) which purpose is to describe the process to be followed by which potentially affected communities and affected population will participate in planning, designing and agreeing on the restrictions regarding to protected areas, as well as in proposing the mitigation measures. A large part of the Bio-CLIMA beneficiaries is expected to be indigenous and afro descendant peoples, and it is not expected that activities of the Bio-CLIMA project will have a negative impact on indigenous, afro descendent people or other minorities.

165. MARENA has also developed an Indigenous Peoples Planning Framework (IPPF), with which the potential positive and negative impacts on IPs are identified and recommendations on how to screen for them and avoid them are provided; but also, how to promote IP participation in the project and benefits. The Project focuses on productive landscape restoration and forest conservation activities, the improvement of livelihoods, and sustainable land management practices in which physical cultural resources are likely to be found in forest or rural areas, and some of the objects identified may be pre-Hispanic structures, sacred sites, protected land, inter alia. Chance finds procedures are considered through a Guideline on Cultural Heritage, which is an annex to the ESMF and to the IPPF and IPP Plan. The Bio-CLIMA project will be implemented primarily by government staff from the implementing public institutions at national, regional and local level and the implementing partners, and by the beneficiaries themselves. Project activities may also include community based sub-projects (SCEs, CFMPs, CFRPs), and projects where most activities are carried out by contractors and subcontractors from the Trust Funds. In the case of community labor, MARENA assessed whether there is a risk of child labor or forced labor and identified those risks consistent with social standards.

166. A Labor Management Procedure (LMP), was developed as an annex to the ESMF and includes specific provisions for each type of expected labor. The LMP will serve as the basis for preparation of more specific Labor Management Plans as needed during implementation, applying any requirements that are relevant given the nature of the activity.

167. Participation and stakeholder engagement: Another way to manage the possible risk in the Project is through a participatory approach applying citizen engagement and beneficiary feedback mechanisms. This will help create timely feedback loops and ensure inclusion and active participation of beneficiaries from vulnerable groups in order to avoid any kind of discrimination. The Stakeholder Engagement Plan (SEP) that has been developed provides inputs to generate strategies to avoid, minimize or mitigate the risks mentioned above. Also, a feedback and Grievance Redress Mechanism (GRM), will be in place linked with the safeguard information system and will be monitored by an independent third-party. The GRM will enable to receive and facilitate resolution of concerns and grievances, and ensure agility, access, prompt response timeframes, and respect for confidentiality.

168. Consultation Process. From September 19 to 24, 2019, MARENA consulted the following ESS instruments: Environmental and Social Management Framework (ESMF,) and the annexes. The consultation was carried out in the localities of San Andres in Alto Wangki Bocay, September 19 to 20; Bilwi RACCN September 19 to 20 and in Bluefields RACCS September 23 to 24, 2019 with an approximate of 76 participants per event, out of which: approximately 26% are women, 57 % are indigenous (Miskito, Mayangna, Ulwa, Rama) and 19% Afro descendants (Creoles and Garifunas). The participants came mainly from the following institutions and sectors: Regional Autonomous Governments, Regional Autonomous Council, Communal Governments (Bluefields Creole, Tasbapounie) Territorial governments (Matumbak, Wak, Lilamni, Tuahka, Táwira, Karatá, Wangki Twi Tasba Raya, Kiplasait, M.S.B, Kukra Hill, Awaltara, Rama Creole,) Municipal Governments (Rosita, Bonanza, Waspam, Prinzapolka, Bluefields, Rama), University BICU, URCACCAN; Producers, association of farmers and fishermen, ONGs (CEDEHCA, Nación Mayangna, AMICA, PANA PANA, Guardabarranco), the press and radio, and ministries and public institutions ( MARENA, INAFOR, MEFCCA, MHCP, MINED, Civil Defense, PRONICARAGUA, National Police. All the social and environmental instruments prepared by Nicaragua's Government and all the evidence and documentation of the consultation have been published by MARENA in the following link: <http://www.marena.gob.ni/Enderedd/componentes/dialogos-y-consultas-para-la-preparacion/>.

169. During the consultation process, stakeholders expressed support for the Program involving the ERP and Bio-CLIMA, and all its safeguards instruments. The main comments that were addressed as a result of the consultation were incorporated in the respective ESS instruments, by MARENA and shared with the FAO, CABI and the World Bank. More detailed information can be found in Annexes No.6.

## G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

170. The regional autonomy normative framework and laws, as well as laws, policies and specialized programs at the national and regional levels that promote gender equality are important instruments to defend women's rights. Nevertheless, women in the CR have suffered various forms of gender and ethnic discrimination<sup>97</sup>.

171. In general, the RACCN and RACCS suffer from higher rates of poverty and lower rates of development. The Human Development Index (2005) was 0.698 at the national level, but 0.466 for the RACCN and 0.454 for the RACCS. Women and men in the CR also have lower life expectancy than the national averages (68.2 in the CR compared to nation rate of 72.9 for women; 63.6 compared to 68.1 for men).

172. Rates of motherhood are higher for girls and teens in the RACCN and RACCS compared to national averages, where Nicaraguan rates are already among the highest in Latin America. Family planning rates are lower and women's unsatisfied need for contraception are higher in the RACCS and RACCN than national rates. Various forms of domestic and sexual violence are a tremendous problem for women and girls in the CR, where girls and adolescents in particular suffer from high rates of sexual violence<sup>98</sup>. Furthermore, their access to health services and redress mechanisms are more difficult. Nonetheless, since 2010 there have been various networks and coordination bodies established in both the RACCS and RACCN involving women's organizations and state agencies.

173. Recent global and regional gender indices show very different rankings for gender equality in Nicaragua. In 2018 global indices, Nicaragua ranked in fifth place in the World Economic Forum's Global Gender Gap report, which emphasized women's formal political representation, education and others<sup>99</sup>. Using this metric, Nicaragua was one of only ten countries around the world to reduce the gender gap by more than 80%<sup>100</sup>. At the same time, Nicaragua ranked 105 of 189 countries in the United Nations' Gender Inequality Index which tracked labour force participation, gendered health and other factors<sup>101</sup>. Nicaragua also held position 15 of 29 Latin American and Caribbean countries for rate of death by current or former intimate partner<sup>102</sup>.

174. Increased deforestation has had many severe negative effects related to environmental, socio-economic and cultural factors. Increased flooding and soil degradation have affected and sometimes destroyed crops as well as drastically reduced flora and fauna. Women and men now have to go much farther from their homes to practice subsistence agricultural and hunting activities. This has also affected indigenous and Afro-descendant people's spirituality practices and traditional medicine because both are also closely tied to their stewardship and care of Mother Earth. Nonetheless, many indigenous production practices are effective for conservation and climate change mitigation, and afro-descendants of the region share these beliefs and practices.

175. Women's experiences with conservation, biodiversity and climate change and defending individual and collective rights are complex. On the one hand, they have suffered greatly because of the

<sup>97</sup> The data for the Gender Assessment (GA) was gathered from: (a) three consultations held in September 2019 with 27% women overall (62 of 231 participants) and (b) an extensive literature review. Note that there is very limited quantitative data, especially that is disaggregated by gender and ethnicity. There is very little recent data available.

<sup>98</sup> Statistics from the Women's Police Stations for RACCN, RACCS and Rio San Juan Department reported in Voces Caribeñas, 2014, p. 24.

<sup>99</sup> World Economic Forum, 2018, The Global Gender Gap Report 2018. [http://www3.weforum.org/docs/WEF\\_GGGR\\_2018.pdf](http://www3.weforum.org/docs/WEF_GGGR_2018.pdf)

<sup>100</sup> GRUN, 2019, Informe Nacional sobre el Avance en la Aplicación de la Estrategia de Montevideo para la Implementación de la Agenda Regional de Género en el marco del Desarrollo Sostenible hacia 2030, p. 5.

<sup>101</sup> UNDP, 2020 *Tackling Social Norms*, Human Development Perspectives.

<sup>102</sup> CEPAL, *Observatorio de Igualdad de Género* de América Latina y el Caribe, "Muerte de mujeres ocasionada por su pareja o ex-pareja íntima". <https://oig.cepal.org/es/indicadores/muerte-mujeres-ocasionada-su-pareja-o-ex-pareja-intima>

increasing lack of biodiversity since it has made their responsibilities and cultural practices more difficult. Women and children now must go farther and spend more time to fetch water. Women make a clear connection between their concerns as mothers attempting to provide for their families and the broader future of their communities. Their efforts to secure and preserve their communal lands is about more than just making money. Rather, they are also concerned about the maintenance of cultural traditions. Women have also suffered different forms of gender and ethnic inequality, discrimination and violence. On the other hand, they are (sometimes) recognized as leaders because of the vital roles they play in defending communal land rights and continuing and adapting ancestral conservation practices.

176. The project's Gender Action Plan (GAP) uses an intercultural<sup>103</sup> gender transformative approach. A gender transformative approach seeks to contribute to increasing women's and girls' empowerment in various areas (economic, political, social, etc.) by breaking down the barriers that maintain and reproduce inequalities. There are three intertwined dimensions of change that will be applied in the various project components: (i) individual capacities (knowledge, attitudes and skills) that emphasize agency and actions that challenge gender norms and inequality; (ii) social relations at the household, community, enterprise (etc.) and focus on norms embedded at those levels; and (iii) social structures and institutional rules and practices that (re)produce gender inequality<sup>104</sup>.

177. The budget for the GAP is USD13,550,668 or 11.7% of the entire Bio-CLIMA budget: Hiring practices is one main line of action. 50% of all those hired as technical and professional staff, as well as contracted services, will be women. 30% of staff hired (men/women) will be indigenous or afro-descendants from the Caribbean Region (CR) who speak Spanish and at least one local language. These rates will be stipulated in all procurement agreements. Affirmative action measures will be implemented; women and men and women will receive equal pay for work of equal value. All staff and consultants will be trained in the GAP and will have responsibilities to implement it corresponding to their roles.

178. Gender equality components and mini gender action plans are requisites for all plans in Output 1.1.1 and will be developed and monitored using participatory and popular methods. Households, territorial governments, enterprises, cooperatives and others will identify intercultural gender equality results and indicators and strategies to meet them, for which they will be monitored. Women and youth may use them as instruments to promote greater equality and their own empowerment.

179. Women who head households will be prioritized for project benefits. The project will provide families with childcare and other measures to ensure women's full participation and engagement in decision-making, such as sessions at times and locations that are safe and adapted to women and youth's daily activities by community.

180. Consultations and regular meetings using popular methodologies are built into most project outputs. These involve mixed-gender and gender-separate moments for reflection. Local Indigenous and Afro-descendant elders will be engaged to train both staff and beneficiaries in traditional conservation beliefs and practices. All events and materials will be carried out or produced in local languages. Training and other sessions, as well as resulting materials, will document both constraints to intercultural gender equality and measures to address them. These will relate to both conservation and production practices as well as revisions to legal and normative frameworks and other outputs.

181. Violence against women and girls will be addressed in various ways through the project, including training, monitoring, and reporting. The project will establish a Grievance and Redress Mechanism for violence against women. 100% of those hired or contracted by executing entities and implementing partners against whom a complaint is lodged and verified will be fired and not rehired.

<sup>103</sup> *Interculturality* means 'relationship between cultures', and refers to making the best use of each culture, so there will be reciprocity, knowledge, appreciation, understanding, interaction, participation, horizontality, respect and solidarity with other cultures. Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN), 2008, "Guía de investigación intercultural de la URACCAN", Bilwi: URACCAN.

<sup>104</sup> Wong, F. and Pyburn, R. 2019, "Reflections on Gender Transformative Approaches in Agriculture: The Promise and Cautionary Tales," CGIAR webinar. <https://www.slideshare.net/CGIAR/gta-prez-meeting-cgiar-webinar-june-2019-final>

182. The public awareness strategy and environmental education sub-component will promote gender equality, women's empowerment and non-violent masculinities. It will emphasize indigenous knowledge, needs and rights regarding conserving and restoring biodiversity and will promote intercultural gender equality.

183. The monitoring framework will be designed to collect quantitative and qualitative data to measure gender equality results and indicators. The main topics to be measured are: (i) women's and men's decision-making at the family/household level, enterprise/organization, community, TGI, municipal and regional governments; (ii) women's and men's more equitable participation in the care economy (including time use); (iii) non-violent and equality-promoting masculinities; (iv) access and control of resources, including spending and distribution of income; (v) awareness of positive intercultural gender and conservation norms; and (vi) mainstreaming of gender across technical components – capacity building; legal and normative framework, and public awareness. All person-related data will be cross-tabulated by gender, age and ethnicity.

### **G.3. Financial management and procurement (max. 500 words, approximately 1 page)**

184. The CABEL is a multilateral bank for the development of Central America. CABEL's mission is to promote the economic integration and the balanced economic and social development of its founding member countries, attending and aligning itself with the interests of all of its member countries. CABEL supports public and private development projects that generate jobs and contribute to improving its member countries productivity and competitiveness, as well as contribute to increasing the Region's human development indicators. During the last 60 years, CABEL's support to the Region has resulted in credit approvals of more than US\$38.05 billion and disbursements of more than US\$30.39 billion.

185. Since 1985, the CABEL has participated in supporting various project initiatives focused on agricultural and rural development, promoting the Central American sector of micro, small and medium-sized enterprises (MSMEs), by increasing access to credit lines through intermediate financial institutions. The Bank's support to the sector has been provided through its own resources and with the resources of cooperative partners from bilateral and multilateral sides.

186. CABEL has extensive experience working with international funds and has a good track record in implementing programs that use international financial management practices. For Bio-CLIMA, CABEL will be responsible for the fiduciary aspects and will be responsible for all financial and investment activities financed by the GCF (unlike GEF and the REDD+ RBP from the FCPF). For the reception of GCF resources, CABEL will set up a special account out of its balance sheet from where disbursements will be made at the request of the MHCP and the Project Management Unit (PMU) attached to MARENA, and to the Silvo-pastoral and Cocoa-Agroforestry Restoration Trust Funds, that will be managed by a financial institution, selected through an international bidding process. These disbursements will have technical and financial support from the CABEL Country Office in Nicaragua.

187. Once these disbursements have been made, they will have technical and financial support from the CABEL Supervision Unit through its team at headquarters in Tegucigalpa, Honduras, and also from the CABEL Country Office in Nicaragua. Project monitoring and evaluation will be provided during the lifespan of the project until guaranteeing its accounting and financial closure before the GCF.

188. For all disbursements, CABEL must receive from the borrower a disbursement request letter duly signed by authorized representatives, including complete and correct payment instructions regarding the transfer of funds. The request must have the supporting documentation and evidence of the destination of the funds attached, in accordance with the requirements of the executed contract or agreement, as well as any other documentation required by CABEL.

189. All documents are added to CABEL's systems. Once validated by the CABEL Project Supervision Area that the technical requirements have been met, the role is transferred to the Country Lawyer to validate the legal conditions. Likewise, the Analyst of the Environmental and Social Sustainability Office reviews that the environmental and social conditions have also been fulfilled, also reflected in the Loan Contract and in the Environmental and Social Action Plan created for the project. Once all the technical areas of CABEL have been validated, the role goes to the Financial Operations

Control Area which is in charge of executing the transfer of resources through the Electronic Payment System. In the event of any contractual breach, the disbursement will not be made until the breach has been remedied.

190. The procurement of goods and services (including consultant services) for GCF-funded activities will be carried out following CABEL standard practices and procedures, which are aligned with GCF procedures, as well as with national laws and regulations.

191. The financial information will include at least the following documentation that CABEL shall provide to the GCF in the framework of the Accreditation Master Agreement (AMA) and the Funded Activity Agreement (FAA): i.) Annual performance reports on the status of project implementation, including disbursements made during the relevant period, progress reports, or more, if so requested by the GCF; ii.) Annual audited financial statement of the specific account, prepared by an independent auditing body. CABEL will observe the highest ethical standards during the acquisition and execution of Bio-CLIMA. CABEL will guarantee the quality of project implementation and the effective use of assigned international and national resources.

#### G.4. Disclosure of funding proposal

☒ No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.

☐ With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

- ☐ full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and
- ☐ redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

## H. ANNEXES

### H.1. Mandatory Annexes (All Annexes are accessible at:

<https://bcie2014.sharepoint.com/:f:/r/sites/DAECI/Informacin%20Externa/Bio-Clima%20Funding%20Proposal/A%20Bio-CLIMA%20Funding%20Proposal%20+%20Annexes%20Final%20Sep%202020?csf=1&web=1&e=XCrm2q>  
(If access is denied for any reason, please request access to CABEL: Mr Rubén Avila, email: [avilar@bcie.org](mailto:avilar@bcie.org))

- ☒ Annex 1 NDA no-objection letter(s)
- ☒ Annex 2 Feasibility studies: a.) Strategic-Institutional, b.) Sustainable-Silvopasture, c.) Cocoa-Agroforestry d.) Deforestation and Forest Degradation Analysis
- ☒ Annex 3 a.) Economic and/or financial analyses in spreadsheet format (integrated calculation model)  
b.) Explanatory notes on general assumptions and parameters used in the EFA
- ☒ Annex 4 Detailed budget plan ([template provided](#)) ([Annex 4.A](#), [Annex 4.B](#))  
a.) General detailed budget plan  
b.) Detailed budget plan of for the Project Implementation Unit
- ☒ Annex 5 Implementation timetable including key project/programme milestones ([template provided](#))
- ☒ Annex 6 Environmental and Social Management Framework (ESMF)([ESS disclosure form provided](#))
- ☒ Annex 7 Summary of consultations and stakeholder engagement plan
- ☒ Annex 8 a.) Gender assessment and project/programme-level action plan ([template provided](#))  
b.) Detailed budget of the Gender Action Plan
- ☒ Annex 9 Legal due diligence (regulation, taxation and insurance)
- ☒ Annex 10 Procurement plan ([template provided](#))
- ☒ Annex 11 Monitoring and evaluation plan ([template provided](#))
- ☒ Annex 12 AE fee request ([template provided](#))
- ☒ Annex 13 Co-financing commitment letters, if applicable ([template provided](#))
- ☒ Annex 14 Term sheet including a detailed disbursement schedule and, if applicable, repayment schedule

### H.2. Other annexes as applicable

- ☐ Annex 15 Evidence of internal approval ([template provided](#))
- ☒ Annex 16 Map(s) indicating the location of proposed interventions
- ☐ Annex 17 (Not applicable) Multi-country project/programme information ([template provided](#))
- ☒ Annex 18 Appraisal, due diligence or evaluation report for proposals based on up-scaling or replicating a pilot project
- ☐ Annex 19 Procedures for controlling procurement by third parties or executing entities undertaking projects financed by the entity
- ☐ Annex 20 First level AML/CFT (KYC) assessment
- ☐ Annex 21 Operations manual (Operations and maintenance)
- ☒ Annex 22 GHG Emissions  
a.) Explanatory note on assumptions and methodology  
b.) Detailed GHG calculation model (Excell Sheet)
- ☒ Annex 23 Studies for the prioritization of intervention areas for Bio-CLIMAs at Concept Note Stage
- ☒ Annex 24 ERP Benefit Sharing Plan
- ☒ Annex 25 a.) Financial Management Capacity Assessment of MHCP as Executing Entity