Funding Proposal

FP203: Heritage Colombia (HECO): Maximizing the Contributions of Sustainably Managed Landscapes in Colombia for Achievement of Climate Goals

Colombia | World Wildlife Fund, Inc. (WWF) | Decision B.35/05

11 April 2023

Contents

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

Please use the following name convention for the file name:

"FP-[Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]"

A. PROJECT/PROGRAMME SUMMARY

A.1. Project or programme	Project	**A.2. Public or private sector**	Public
A.3. Request for Proposals (RFP)	*If the funding proposal is being submitted in response to a specific GCF Request for Proposals, indicate which RFP it is targeted for. Please note that there is a separate template for the Simplified Approval Process and REDD+.* Not applicable		

A.4. Result area(s)

*Check the applicable GCF result area(s) that the overall proposed project/programme targets below. For each checked result area(s), indicate the estimated percentage of **GCF and Co-financers' contribution** devoted to it. The total of the percentages when summed should be 100% for GCF and Co-financers' contribution respectively.*

	GCF contribution	Co-financers' contribution[1]
Mitigation total	Enter number %	Enter number %
☐ Energy generation and access	Enter number %	Enter number %
☐ Low-emission transport	Enter number %	Enter number %
☐ Buildings, cities, industries and appliances	Enter number %	Enter number %
☒ Forestry and land use	39 %	39 %
Adaptation total	Enter number %	Enter number %
☒ Most vulnerable people and communities	2 %	2 %
☐ Health and well-being, and food and water security	Enter number %	Enter number %
☐ Infrastructure and built environment	Enter number %	Enter number %
☒ Ecosystems and ecosystem services	59 %	59 %

A.5. Expected mitigation outcome *(Core indicator 1: GHG emissions reduced, avoided or removed / sequestered)*	46.3 Mt CO_2eq over 30-year lifespan	**A.6. Expected adaptation outcome** *(Core indicator 2: direct and indirect beneficiaries reached)*	Total beneficiaries: 16,944,180 (51% female)	
			Direct beneficiaries: 329,658 (51% female)	Indirect beneficiaries: 16,614,522 (51% female)
			0.7% of total pop	33% of total pop.
A.7. Total financing (GCF + co-finance[2])	145.2 million USD	**A.9. Project size**	Medium (Upto USD 250 million)	
A.8. Total GCF funding requested	43 million USD *For multi-country proposals, please fill out annex 17.*			

[1] Co-financer's contribution means the financial resources required, whether Public Finance or Private Finance, in addition to the GCF contribution (i.e. GCF financial resources requested by the Accredited Entity) to implement the project or programme described in the funding proposal.
[2] Refer to the Policy of Co-financing of the GCF.

A.10. Financial instrument(s) requested for the GCF funding	*Mark all that apply and provide total amounts. The sum of all total amounts should be consistent with A.8.* ☒ Grant USD 43 million ☐ Loan Enter number ☐ Guarantee Enter number ☐ Equity Enter number ☐ Results-based payment Enter number		
A.11. Implementation period	10 years	**A.12. Total lifespan**	30 years
A.13. Expected date of AE internal approval	2/10/2023	**A.14. ESS category**	*Refer to the AE's safeguard policy and GCF ESS Standards to assess your FP category.* B
A.15. Has this FP been submitted as a CN before?	Yes ☒ No ☐	**A.16. Has Readiness or PPF support been used to prepare this FP?**	Yes ☐ No ☒
A.17. Is this FP included in the entity work programme?	Yes ☒ No ☐	**A.18. Is this FP included in the country programme?**	Yes ☒ No ☐
A.19. Complementarity and coherence	*Does the project/programme complement other climate finance funding (e.g. GEF, AF, CIF, etc.)? If yes, please elaborate in section B.1.* Yes ☒ No ☐		
A.20. Executing Entity information	Fondo Patrimonio Natural para la Biodiversidad y Áreas Protegidas, a Colombian private organization identified with VAT-ID number 900.064.749-7, with headquarters in Bogota D.C., hereafter to be referred to as Patrimonio Natural. Fondo Mundial para la Naturaleza Colombia a Colombian private organization with headquarters in Bogota, Colombia, hereafter to be referred to as WWF Colombia.		

A.21. Executive summary (max. 750 words, approximately 1.5 pages)

Climate Change Problem

1. Colombia's landscapes and people are facing a period of unprecedented ecological and climate-related pressures as the country undertakes an ambitious transformation to meets its Nationally Determined Contribution, among the most ambitious in Latin America.[68] As one of the most disaster affected countries on earth with substantial baseline climate variability driven by El Niño/La Niña cycles and a significant portion of Amazon forests that are a critical global carbon sink, Colombia is both highly impacted by increasing climate variability and plays an essential role in reducing land-based global emissions.

2. Observed trends and future projected changes in climate under RCP 4.5 show increasing temperatures and greater variability in precipitation patterns, leading to an increased incidence of droughts, flooding, landslides, and fires, negatively affecting ecosystems nationwide. Water provisioning and regulation are critically impacted by climate change. Uneven water distribution, coupled with varying

demand, results in extremely low water availability in some areas and excesses in others that cause significant periodical flooding. The National Water Study estimates that almost 50% of the urban population is vulnerable to water scarcity on an average year, and this proportion may increase to reach up to 80% during dry years.[13] Rural communities and the agricultural sector are heavily reliant on ecosystem services and especially vulnerable to changes in climate.

3. Meanwhile, after having endured five decades of armed conflict with the Revolutionary Armed Forces of Colombia (FARC) until a peace agreement was signed in 2016, the country is confronting a new wave of deforestation and significant alterations of terrestrial socio-ecological systems, leading to increased GHG emissions and further compromising the ability of these ecosystems to adapt to climate change and sustain water provisioning. Nowhere are these pressures more pronounced and complex than in and around vulnerable forested areas in Colombia's National System of Protected Areas (SINAP) – areas that are havens for biodiversity and critical nature-based solutions to the climate crisis. As highlighted in a recent study conducted in Colombian NNPs and NNRs using an open-access global forest change dataset, 31 of the 39 PAs in the country (79%) have experienced increased deforestation in the years following the peace accord.[69]

4. Land use change and climate impacts are two determinant factors of sustainable water yield, and the data clearly indicates that Colombia will be unable to sustain the hydrological functionality of its watersheds in a changing climate without safeguarding forest ecosystems in key protected areas. Colombia's SINAP covers 31,157,886 ha (15% of the nation's territory), including 59 natural areas, which represent 14,268,224 ha of the country's total surface area. 50% of the hydro-energy produced in Colombia uses water provided by SINAP, with an estimated value of US$ 502 million. At least 19 protected areas of the system provide drinking water for more than 25 million people, for an estimated annual value of US$ 491 million[17], while the PAs' water provisioning and regulation services add an estimated US$ 2.3B (minimum) to the GDP for an average year[19]. An analysis of water provisioning during average and dry years for the five hydrographic zones of Colombia, demonstrates that the sub-zones where National Parks are located have between 25 and 30% additional water available as compared to those sub-zones without national parks[18]. Yet, the connectivity of the system is limited, the effectiveness of current management is low, maintaining the network has associated opportunity costs, and the distribution of the benefits of ecosystems conserved in the SINAP is clearly inequitable.

5. SINAP's new 2020-2030 policy – approved by the National Protected Areas Commission (CONAP) in May 2021 – aims to change those trends, as do local and national peacebuilding initiatives implemented under the *territorial peace* approach[3] as part of the peace agreement. Although the Colombian government has demonstrated strong commitment to increasing PA coverage and representation in recent years, the system still faces a significant financial gap to achieve the ambitions of the NDC and SINAP 2030 policy goals. Barriers to addressing this structural financial gap can largely be grouped into two interconnected categories: (1) Access to Finance: the capacity of key territorial entities to access and sequence existing and new domestic funding instruments the government has or plans to put in place; and (2) Effective Management of integrated landscapes of PAs and adjacent private lands in the ecological area of influence of the PA, specifically as it relates to limited capacities to develop and implement area-based sustainable land practices and climate change adaptation measures.

Proposed approach

6. The proposed project is a cornerstone of WWF's regional vision and strategy for the Amazon, which will bring together Project Finance for Permanence (PFP) [4] projects in Brazil, Peru, and Colombia under WWF's Earth for Life initiative. Together, these three country initiatives will secure the long-term protection of approximately 13% of the Amazon biome, and foster a paradigm shift towards low-emission and climate-

3 Peña L (2019) Paz territorial: conectando imaginación moral e imaginación geográfica. Instituto Capaz, Working paper N6. https://www.instituto-capaz.org/wp-content/uploads/2019/11/Documento-de-Trabajo-N6-V2.pdf

4 The original PFP concept was presented in a publication by the Linden Trust for Conservation, Gordon and Betty Moore Foundation, and Redstone Strategy Group, and was recently summarized and updated (with lessons learned to date) by WWF in a guide to PfPs released in Dec. 2021: https://www.worldwildlife.org/publications/securing-sustainable-financing-for-conservation-areas

resilient development in these countries. The PFP methodology is strongly aligned with GCF's goal of funding initiatives that catalyze climate impact through transformation of financial systems.

7. Since 2015, WWF has been supporting the use of the PFP methodology through **Heritage Colombia (HECO)**, a public-private partnership designed to secure financial sustainability for large-scale landscape management in key geographies by blending public funding sources with private philanthropic funding and uniting them around common climate and conservation strategies and goals**.** At a national level, HECO is an ambitious program to protect or restore 20 million ha over the next 20 years, under the leadership of the Ministry of Environment and Sustainable Development and the National Parks Agency. It has received significant political support over two administrations (first under President Santos and now under President Duque.) The HECO PFP, which will contribute to the national program goals, is targeted to close in 2022. This proposed GCF project is the cornerstone of that PFP.

8. The five landscape mosaics in this GCF project will contribute 6.6 million ha, representing one third of the total 20 million ha goal, and more than 5.8% of Colombia's territory. The mosaics - Caribbean, San Lucas, Central Andes, Orinoco Transition and Heart of the Amazon – represent the diversity of Colombia's ecosystems and climate challenges. They include both protected areas (already under or designated to be included in the system of national, sub-national, and local protected areas) and ecologically connected productive lands under other forms of tenure. The mosaics were selected via a landscape prioritization analysis (see Annex 2 and 2b for a detailed description and the full analysis, respectively), which evaluated optimal landscapes to maximize investment for mitigation and adaptation benefits, based on national climate vulnerability and carbon stock data, and areas providing the greatest opportunity to reconnect and strengthen the protected area network to ensure delivery of essential ecosystem services, including water provision and regulation, hazard risk reduction and biodiversity.

9. The project's goal is to realize a new paradigm of sustainable landscape finance that combines climate-resilient management practices in and adjacent to protected areas, one that sequesters and stores carbon and generates water regulation and provisioning in a changing climate, while improving the resilience of local livelihoods. Three complementary components have been designed to contribute to the achievement of this goal: i) governance structures for climate-responsive planning and development improved and implemented; ii) participatory monitoring systems that generate climate information used for improved decision making in territorial planning; and iii) land management improved, and restoration implemented to reduce carbon emissions and strengthen adaptive capacity of vulnerable communities.

10. Similar to the PFP in Bhutan for Life (GCF FP050), this project is designed to address structural funding gaps and systemic barriers to protected area finance by blending funding from donors and increasing government investments significantly above baselines during a short-term financial transition period - improving access to finance and the management of integrated landscape of PAs required for the network's success. During this 10-year window, GCF funds will attract US$ 102.2 million in new investment as direct co-finance into these landscapes from WWF, the Government of Colombia and various philanthropic donors. By the project's end, the PFP will secure new public domestic resources (above and beyond the upfront investment in the PFP period) that generate the projected US$ 7.2 million needed on an annual recurring, or *permanent*, basis to address the mosaics' structural financial gap. The additional recurring revenue stream nearly doubles the year-on-year financing flowing into the mosaics compared to a BAU scenario. Under a time-frame of 20 years after project implementation ends, the project investments would leverage an approximate nominal amount of $US 206 million from domestic sources to maintain the impacts achieved by the project over the long-term.

11. Project interventions will bring 5.72 million ha under climate-resilient management practices and directly benefit 329,658 people from increased capacity for using climate information, managing climate risks on-farm, and restoration and rehabilitation to reduce landslide and flooding risks. Ecosystem-based Adaptation interventions that protect and maintain ecosystems that provide water regulation to and supply large urban populations will indirectly benefit 16,944,180 people representing 33% of the total population.

12. The total mitigation impact from reduced deforestation, forest restoration and preserved sinks corresponds to 8.9 million tCO2eq at project completion (10 years) and 46.3 million tCO2eq cumulatively

over the project lifespan (30 years) at a total investment cost of US$ 3.14 per tCO2eq (US$ 0.93 per tCO2eq for GCF). According to the latest NDC update, Colombia expects to reduce emission from deforestation by 2030 to between 45.574 and 58.69 million tCO2eq with respect to its 2020 FREL. The project would therefore contribute between 13.8 and 17.8% of this targeted reduction.

B. PROJECT/PROGRAMME INFORMATION

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

Country context

13. Colombia is the third most populous country in Latin America with ~51.5 million people[5] with a GDP of US$ 271 billion[6]. While Colombia is a middle-income country, 42.5% of the population lives in monetary poverty[7] and 18.1% in multidimensional poverty for 2020.[8] Agriculture, livestock and aquaculture represent 7.6% of all the GDP at national level, however this percentage increases in rural areas as the dominant source of income[9]. Small properties are owned by 80% of the rural population and represent 29% of the total area, while their production was estimated between 50% and 68% of total agricultural production.

Ecosystems and Ecosystem Services

14. Ninety-one ecosystem types have been identified in Colombia[10]. Experts estimate that 66% of their original area remains, although there is significant regional variation of human transformation. Due to the concentration of the Colombian population in the Andean region and in the lowlands of the Caribbean, more than half of their natural ecosystems have been transformed, with only 42% and 32% of their original cover remaining, respectively[11].

15. Water provisioning and regulation are without a doubt Colombia's most important ecosystem services. Approximately 10.4% of Colombia's continental surface is covered by freshwater ecosystems. Around 24% of these environments show evidence of some degree of transformation caused by urbanization, agriculture expansion, cattle ranching, and infrastructure development.[12] In 2016, national water demand reached 37,308 million m^3, with more than half corresponding to the agricultural (51.3%), energy (24.3%), and domestic use (17.1%) sectors. According to the National Water Study, almost 50% of the country's domestic hydrological demand is concentrated in basins that rely on functions provided by the country's nearly 3 million hectares of high mountain ("paramo") ecosystems, including sediment control and filtration, erosion control and landslide and flood risk reduction and support for most of the country's hydropower.[13] Uneven water distribution among the country's water basins[14], coupled with varying demand, results in extremely low water availability in some areas and excesses in others that cause significant periodical flooding. Alongside supporting such substantial water flows, these same ecosystems, particularly upstream high mountain pastures, forests, paramos, and wetlands provide essential flow regulation and flood risk reduction benefits to surrounding and downstream populations.

Current climatic conditions

16. A detailed climate analysis and methodology is presented in Annex 2: Feasibility Study. The information presented below includes key results from the analysis to support the project's climate rationale. Given the complex geography of the country, the following descriptions of climate patterns and current impacts of climate variation are limited to five main project implementation regions (mosaics[15]) with more detailed examples provided on each and specific areas of intervention within those regions.

17. Climate variation in Colombia is largely determined by the complex topography of its continental territory. Due to its geographical location in the northwestern corner of South America close to the equator, climate is also strongly

[5] Worldometers, Colombia population. Accessed on August 1, 2021. https://www.worldometers.info/world-population/colombia-population/
[6] The World Bank. GDP (current US$) – Colombia. https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=CO
[7] https://www.dane.gov.co/index.php/estadisticas-por-tema/pobreza-y-condiciones-de-vida/pobreza-monetaria
[8] https://www.dane.gov.co/index.php/estadisticas-por-tema/pobreza-y-condiciones-de-vida/pobreza-multidimensional
[9] Misión para la Transformación del Campo, (2015). Diagnóstico económico del Campo Colombiano (Informe de la Misión para la Transformación del Campo). Bogotá D.C.
[10] Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM), Instituto Alexander von Humboldt (I.Humboldt), Instituto Geográfico Agustín Codazzi (IGAC), Instituto de Investigaciones Marinas y Costeras "José Benito Vives de Andréis" (Invemar) y Ministerio de Ambiente y Desarrollo Sostenible. (2017). Mapa de Ecosistemas Continentales, Costeros y Marinos de Colombia (MEC) [mapa], Versión 2.1, escala 1:100.000.
[11] Etter, A., Andrade, A., Saavedra, K., Amaya, P., Cortés, J. y Arévalo, P. (2020). Ecosistemas colombianos: amenazas y riesgos. Una aplicación de la Lista Roja de Ecosistemas a los ecosistemas terrestres continentales. Bogotá: Pontificia Universidad Javeriana y Conservación Internacional-Colombia.
[12] WWF-Colombia 2017. Colombia Viva: un país megadiverso de cara al futuro. Informe 2017. Cali: WWF-Colombia.
[13] IDEAM (2019). Estudio Nacional del Agua 2018. Bogotá: Ideam: 452 pp.
[14] Caribbean, Pacific, Magdalena-Cauca (Andean region), Orinoco and Amazon.
[15] The term "mosaic", throughout this document, refers to a large, ecologically heterogeneous area, within which several landscapes are connected through socio-ecological processes.

influenced by the trade winds and the southern oscillation of the intertropical convergence zone. The El Niño-Southern Oscillation (ENSO) events, which tend to occur every 3 to 7 years, strongly modify the rainfall patterns throughout the country. As a rule, El Niño events cause a reduction in precipitation and an increase of temperature, especially in the Andean and Caribbean regions, while La Niña events cause the opposite effect.

18. In the equatorial zone, the amount of solar energy varies minimally throughout the year, which explains the minimal monthly variation of air temperature, ranging from 1 to 3°C. However, the thermal regime in Colombia has a strong spatial variation due to the complex physiography of the country and the influence of the two ocean masses among other factors. For instance, both in the Pacific and Amazon regions, evapotranspiration contributes to lessen the mean values of air temperature. Consequently, in Colombia there are regions where mean air temperature is higher than 32°C, and others where mean temperature is just a few degrees above 0°C.

19. The north-eastern extreme of the **Caribbean** region, in the Departments of La Guajira, Atlántico and Cesar, is influenced over the most part of the year by high pressure systems resulting from the belt of subtropical anticyclones. In this portion of the Colombian Caribbean, annual rainfall reaches 300-600 mm, but to the south, as the lowlands yield to the piedmonts of the Central and Eastern Andes rainfall increases gradually, reaching up to 1,800- and 2,000-mm. Rainfall distribution along the year is bimodal: the first rainy season occurs from mid-April until early June, and the second, more intense period, from early September to early December. Most localities around the Caribbean region have a mean air temperature ranging from 26 to more than 28°C. The hottest sites are located in the extreme north of the Guajira peninsula and along the Cesar River valley. The Sierra Nevada de Santa Marta has a different thermal regime, due to its elevational range, and at some sites mean temperature can be as low as 8°C.

20. **San Lucas** is a transitional zone between the semi-arid conditions of the southern Caribbean lowlands and the moist foothills of the northern Central Andes. Mean temperature in the area is 28.2°C (12-35°C), although it may rise to 38°C during the dry season. The main rainy season occurs during the second half of the year, and the main dry season occurs during the first quarter (January-March), when there is a water deficit in the soil. Between April and November, the water balance is positive.

21. Due to the complex topography of the **Andean** region, rainfall variation is considerable and depends on a number of factors including exposure, orientation of the slopes, and elevation. In general, annual rainfall is lower (reaching less than 1,200 mm) at the bottom of the upper Magdalena valley (Huila, Tolima), upper Cauca valley (Valle del Cauca) and the Chicamocha Canyon (Santander), and above 2,000 m of elevation, as in the Bogota plateau. As a contrast, the highest yearly rains occur in the foothills of the middle Magdalena and Cauca valleys, and in some localities of the coffee growing region in the Central Andes, Antioquia, and Santander, where annual rainfall reaches between 2,000 and 4,000 mm. Rainfall is bimodal, although seasonal occurrence of dry and wet seasons varies latitudinally. The dry seasons at the beginning and the mid part of the year are well defined. The first rainy season occurs from mid-March until early June, and the second and more severe rainy season begins towards the end of September and lasts until the beginning of December. The effect of orography is obviously noticeable in the Andean region, where thermal bands are well defined along the elevational gradient. The highest mean temperatures (24-28°C) are found in the dry inter-Andean valleys of Magdalena, Cauca, Sogamoso and Patía, while in the Andean plateaus of Cundinamarca, Boyacá and Nariño and the mountains of Antioquia, Cauca and the coffee growing region, mean temperatures are between 12 and 16°C.

Observed climate changes

22. The information presented below includes key results from the analysis (see detailed analysis and methodology in Annex 2) to support the project's climate rationale. Observed historical data shows the significant interannual variability driven by ENSO: 2010 was the rainiest la Niña year in the country during the period 1970-2011, followed by 2011, 1999, 2008 and 1984. The first two years with the highest rainfall in the country coincide with those that occurred globally. From 1980-2011, there is a linear rate of increase in precipitation of 7.05 millimeters per decade. On the other hand, the El Niño years with the lowest rainfall in the country during the period 1970-2011 were 1997, 1992, 1991, 1976 and 1977 (Figure 1). Between 1970 and 2019, Colombia experienced an average of three climate-related disasters per year. According to the National Office for Disaster Risk Management (UNGRD), rainfall related disasters increased by 16.1% from 1950-2017, especially during periods of La Niña. The IPCC estimates that the

occurrence of disasters related to changing climate conditions in Colombia between 2000-2005 increased 2.4 times compared to 1970 to 1999.

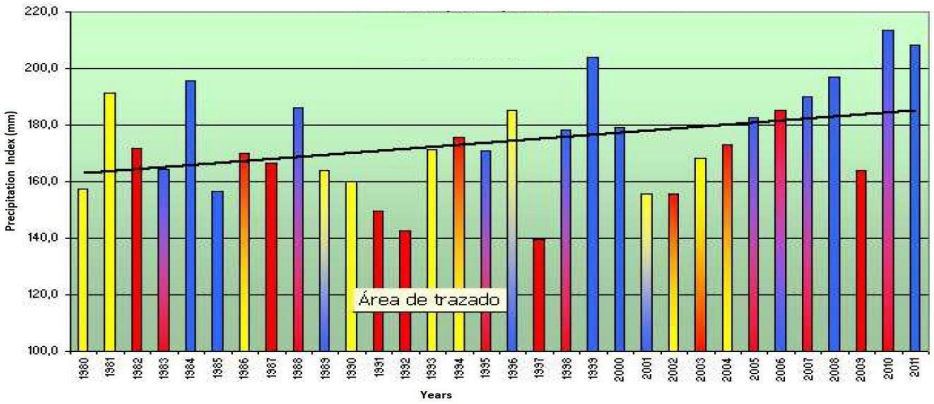

Figure 1. Annual Precipitation Index for Colombia with influence of ENSO phenomenon 1980-2011 (Blue the Niña, red the Niño and yellow neutral). Source: IDEAM in Benavides and Rocha 2012[16]

23. At the mosaic level, the observed period sees an increase in rainfall in the more northern areas of the Caribbean and San Lucas, although with similar increases in average and extreme heat and drought incidence, it is not surprising that drought and water scarcity continue to pose challenges for the Caribbean mosaic. There is a decrease in the southern areas of Central Andes and the Heart of the Amazon. The Orinoco area remains roughly consistent over time but with a slight increase. These are however still very high rainfall areas with no area receiving less than 1,500 mm annually (Figure 2 and Annex 2 for full analysis).

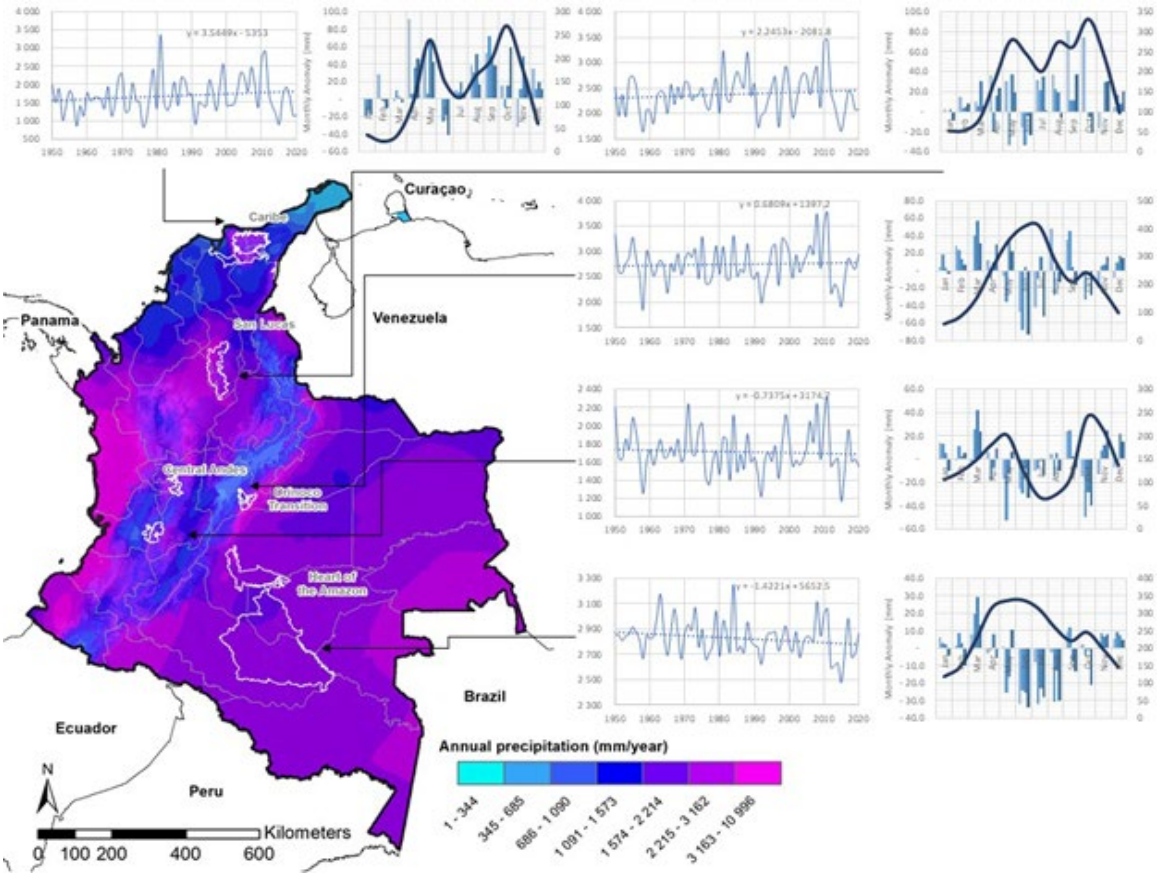

Figure 2. Rainfall changes in the observed period and decadal monthly *anomaly*. Data source: IDEAM.

[16] Benavidez, H. O. y Rocha, C.2012. Indicadores que manifiestan cambios en el sistema climático de Colombia (Años y décadas más calientes y las más y menos lluviosas). Nota técnica del IDEAM. IDEAM-METEO 001-2012. Subdirección de Meteorología.

24. Observed data shows significant temperature increases, with a linear increase of 0.198ºC per decade from 1980-2011 (Figure 4), alongside increased downpours, as part of a trend of increased annual accumulated precipitation. The Caribbean in the north has experienced an average temperature increase of 0.15°C per decade. San Lucas has seen an increase of 0.12°C per decade. Orinoco Transition has seen an increase of 0.10°C per decade. Central Andes has seen an increase of 0.10°C per decade, and the Heart of the Amazon has seen an increase of 0.09°C per decade. The largest rate of increase is in the further northern areas. Changes in temperature in high elevation areas are evidenced by a strong retreat of the glaciers in Colombia. This results in a double impact on the páramos, one of the main sources of water in large cities such as Bogotá: decreasing precipitation and a tendency of increasing maximum daytime temperatures, contributes to greater water evaporation in the páramo areas, where a large number of the country's main rivers originate.

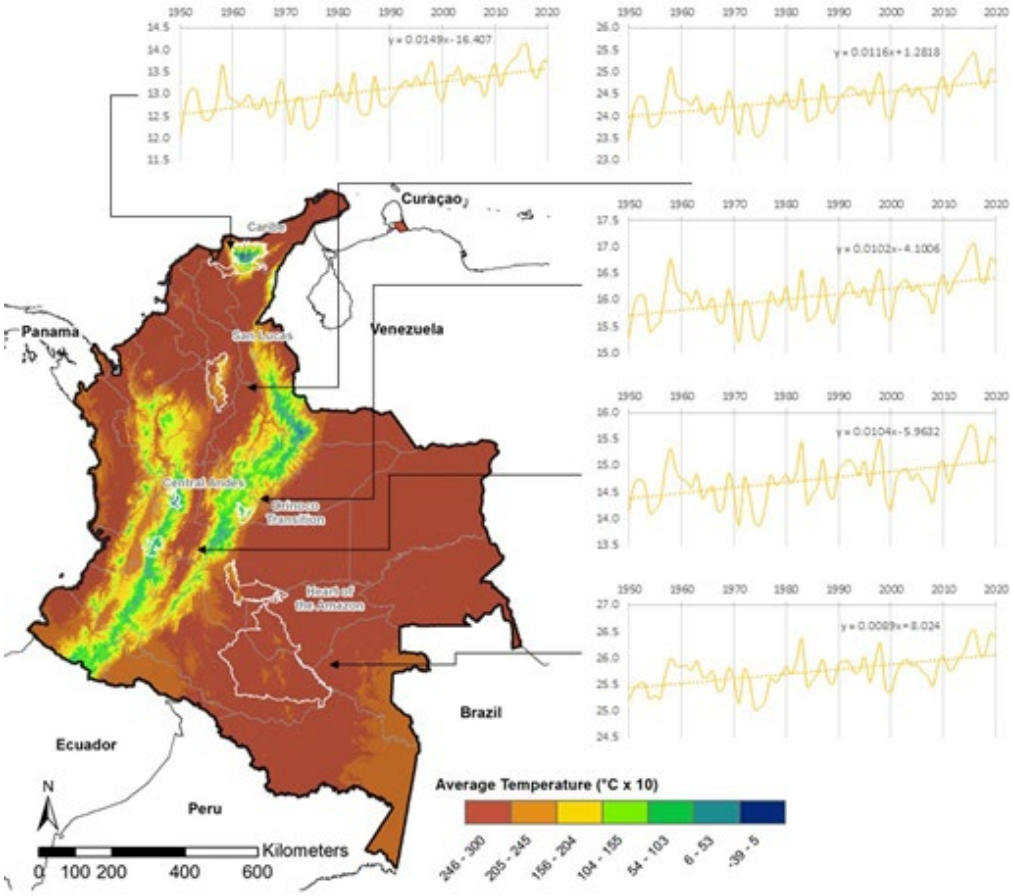

Figure 3. Average Temperature changes in the mosaics during the observed period. Data source: IDEAM.

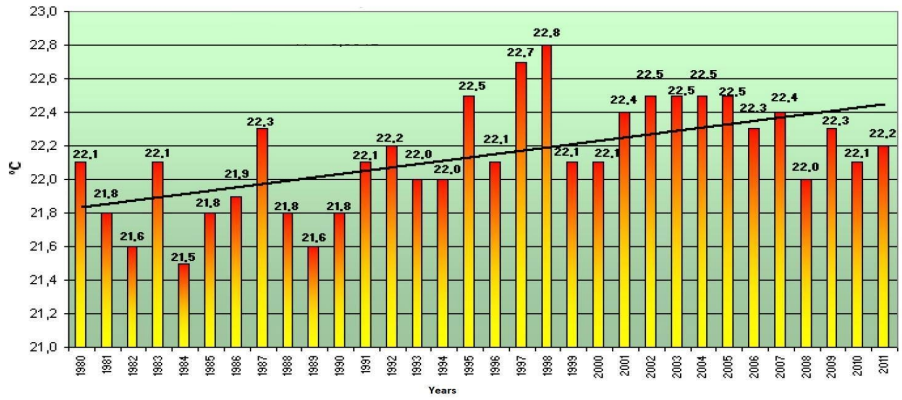

Figure 4. Average annual temperature of Colombia 1980-2011. Source: IDEAM.[17]

[17] Benavidez, H. O. & Rocha, C. 2012. Indicadores que manifiestan cambios en el sistema climático de Colombia (Años y décadas más calientes y las más y menos lluviosas). Nota técnica del IDEAM. IDEAM-METEO 001-2012. Subdirección de Meteorología.

Projected climate change

25. The information presented below includes key results from the analysis developed to support the project's climate rationale under RCP 4.5 (with some figures also showing RCP 8.5 for comparative purposes), supplemented by data from the 2017 Third National Communication to the UNFCCC (see Annex 2 for full climate analysis). The magnitude of extreme rainfall occurrences is rising across all mosaics. Climate change projections include a rise in average annual temperature of 1.3°C to 1.8°C, as well as an increase in the number of extremely hot days and nights; and a decrease in the number of colder evenings. Average annual rainfall is expected to rise by 0.8 to 1.6 percent, with the highest increases in December and January and the lowest in September and October. There will also be an increase in the frequency of severe rainfall days (Figure 6).

Rainfall

Baseline changes

26. Rainfall in Columbia is highly varied spatially and strongly orographically controlled. The highest rainfall occurs in the far south-east and along the western coast. The lowest rainfall occurs in the northeast to southwest swath parallel to the Andes range. The projected future (2050) sees an increase in rainfall along the western coast and the eastern interior of the country. There are areas to the south and far north that remain unchanged or see decreases. This pattern is exacerbated into the further future (2070).

27. Both the Caribbean and San Lucas areas show long term variability in total rainfall but no distinct trend in either direction.[18] These areas are near the transition zones between increasing and decreasing rainfall. There is, however, early season increase in monthly rainfall. In the Caribbean, this is an increase in May and June, while in San Lucas there is an increase in January and February. Both locations see a decrease in monthly rainfall from August to November during the peak rainfall period.

28. Orinoco Transition and Central Andes areas are in the increasing precipitation area and these areas see an increase of between 5 and 20% by the end of the century. These increases are noted in the peak period of May and June for the Orinoco and in May/June and the late second peak in December for the Central Andes area. The Heart of the Amazon area is also in the increased precipitation area but closer to the transition. There is an increase of between 5 – 10% annual rainfall in this area. This is due mostly to an increase between April and June in the peak period.

Character

29. Currently, the longest dry spells are in the north with ~30-50 days. The projected future (2050) sees longer dry spells (+2 days) in the far south-east in the area where there is a projected decrease in total rainfall, this is enhanced in the further future (2070). There is a smaller increase in the eastern side of the country of ~+1 day. There is very little chance of the dry spell duration in the coastal western areas. The seasonal change in dry days is very different in the Caribe area with increase dry days noted from July to November, at the peak of the rainfall season. The other locations see an increase in dry days in two peaks, firstly from February to April and again from September to November which is generally outside of the rainfall peaks.

Variability

30. Rainfall variability is highest in the far northern areas and the central-eastern areas of the country. The more southern and western areas see a lower year on year variability meaning rainfall is more predictable and has a lower normal range in these areas. The projected future sees decreasing variability in two areas of the country: the amazon area and to the northwestern Pacific coast. The remaining areas see an increase in total variability of up to 13% in the far south-east.

31. The Caribbean mosaic is located in a region of Colombia with increasing variability, with an anticipated increase in the standard deviation of up to 200 mm annually. The majority of this is due to variability in June July August (JJA). San Lucas lies on the interface between increase and decreasing variability areas sees variability between

[18] There is significant uncertainty in future projections for the Caribbean landscape, with modeling results carried out for this analysis showing no significant future change in annual average rainfall by 2050, while the 2017 Third National Communication projected decline of 10-30%. This is likely due to different methods, with the analysis for this proposal relying on fewer regional models determined to best fit three local stations as representative of all five mosaics. Geographies are also distinct, with the 2017 3NC analysis pertaining to a larger area, where this proposal analysis is limited to mountainous higher altitude region of Santa Marta and surrounding implementation geographies. However, it is important to note that both assessments agree on the impacts: increasing extreme heat, drought index, and rainfall intensity will all lead to increased water scarcity, especially seasonally, punctuated by increasingly intense and damaging hazards.

+75mm and -60 mm annually. Again, JJA shows the widest change. Orinoco Transition sees a decrease in the total annual standard deviation of ~60 mm, due to decreased variability in MAM and JJA.

32. The Central Andes sees a wide decrease of variability between -5 and -65mm annually with MAM, JJA and SON all showing reduced variability. The Heart of the Amazon is varied in the seasonal response with MAM showing lower variability, SON been either side of the change and DJF and JJA both showing increased variability but with a narrower range.

Temperature

Baseline changes

33. The hottest areas of the country are in the lower-lying eastern areas and to the far north, with the higher altitude Andes not surprisingly home to lower temperatures. Projected changes to maximum temperatures see an increase in the south and eastern areas of the country of 2.9-4.0°C. The northwestern coastal area sees the lowest changes, mitigated by ocean effects. The already hot areas of San Lucas and Heart of the Amazon increase from 29 and 30°C historically to be 31 and 34°C for RCP4.5 by the end of the century. The cooler areas of Caribe, Orinoco Transition and Central Andes increase from 18-21 to 20.5 - 24°C under RCP4.5. This is exacerbated further under the RCP8.5 scenario.

34. The minimum temperatures which are lowest in the elevated Andes areas are projected to increase in the future. These increases are likely most notable to the south and northeast of the country. Again, the western coastal area has minimal temperature changes projected. The occurrence of cooler nights in each of these areas is projected to decrease from 40-60% to 5-15% near the end of the century. The coastal area is the exception to this which sees a decrease in cooler nights from 40% to 30%.

Impacts of climate change

Observed climate change impacts

35. Colombia is vulnerable to extreme weather impacts due to the high recurrence and magnitude of disasters associated with the interannual and decadal variability of El Niño/La Niña Southern Oscillation (ENSO) cycles and changing climate conditions. The climate change parameters noted are already worsening these extremes, and future scenarios show further increasing temperatures and greater variability in precipitation patterns, leading to associated long term effects punctuated by shorter term hazards like droughts, flooding, landslides, and fires, negatively affecting ecosystem services including water supplies, agricultural production, and infrastructure. Colombia ranks 10th in the world for economic risks from three or more hazards, with the highest recurrence rate of extreme hazards in South America, where roughly 85% of the population and major assets are in areas regularly exposed to at least two hazards[19].

36. Hazards of extreme weather are also increasingly affecting ecosystems, livelihoods, infrastructure, and the larger economy in all project geographies, with flooding, drought, landslides, and fires all increasing in recent decades (Table 1). Costs of extreme weather events between 1970-2010 reached US$ 5.8 billion and could potentially reach as much as 1.5% annually of Colombian GDP if the 20% annual growth rate in damages continues.[20] [21] The Ministry of the Environment estimates 2% of the total population will be affected by floods in 2030, representing 2.2% of the GDP.[22] The hazards posing the greatest risk varies by landscape, but people are particularly at risk to landslides in the Caribbean, Central Andes, Orinoco Transition, and to flooding in the Heart of the Amazon (Table 1). The observed number of extreme climatic events across the project's target mosaics and the impacts thereof continue to show an increasing trend (Figure 5 and Table 2).

Table 1. Hydroclimatic events and people at risk.[23]

[19] World Bank Climate Change Knowledge Portal. Colombia: Vulnerability. Accessed May 1, 2021. https://climateknowledgeportal.worldbank.org/country/colombia/vulnerability

[20] Ana Campos G., Niels Holm-Nielsen, Carolina Díaz G., Diana M. Rubiano V., Carlos R. Costa P., Fernando Ramírez C. y Eric Dickson 2012. Análisis de la gestión del riesgo de desastres en Colombia: un aporte para la construcción de políticas públicas. Banco Mundial. Washington D.C. In http://gestiondelriesgo.gov.co/sigpad/archivos/gestiondelriesgoweb.pdf

[21] Jaramillo, F., Gomez, M.A., Calderón, S., Romero, G., Ordoñez, D.A., Álvarez, A., Sánchez-Arango L. y Ludeña, E. 2015. Impactos económicos del cambio climático en Colombia: Costos económicos de los eventos extremos. Banco Interamericano de Desarrollo. Monografía No. 2601, Washington D.C.

[22] https://www.minambiente.gov.co/index.php/cambio-climatico/que-es-cambio-climatico/impacto-del-cambio-climatico-en-colombia

[23] Desinventar database https://db.desinventar.org/

Mosaic	Landslide susceptibility (ha)	Population at Risk to landslides (persons)	Flood susceptibility (ha)	Population at Risk to floods (persons)
Heart of Amazon	4,287.8	12	365,556.0	2,672
Orinoquia transition	88,918.7	6,384	-	-
Central Andes	69,926.8	24,569	-	-
Caribbean	282,672.9	7,982	15,226.5	12,463
San Lucas	275,331.81	18,533	1,929.24	105
Totals	**721,138.08**	**57,480**	**382,711.71**	**15,240**

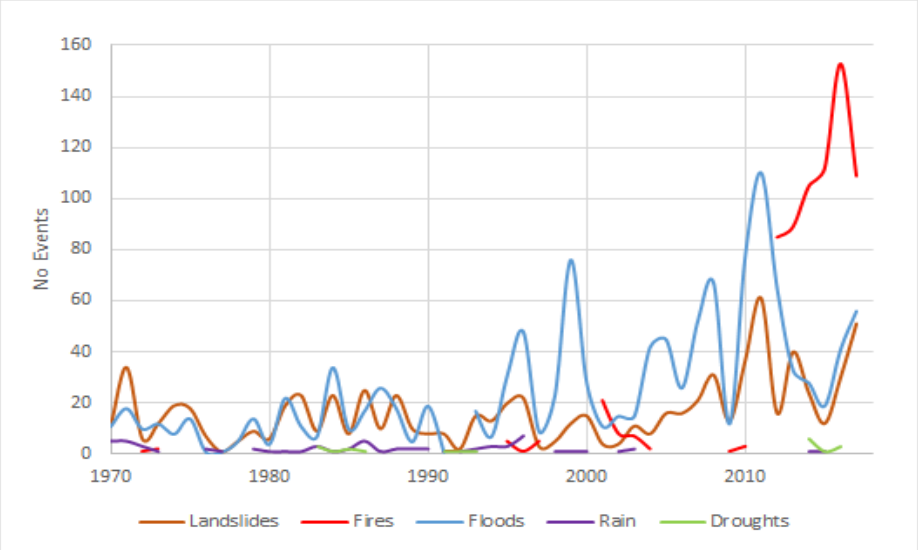

Figure 5. The number of extreme events related to climate variability in the project's target mosaics since 1970 shows a clear increasing trend in occurrence. Source: Desinventar 2020.[24]

Table 2. The impacts of observed extreme events related to climate variability across the project's target mosaics. Source: Desinventar (2020)[25]

	Homes destroyed	Deaths	Crops and woods (Ha)	Livestock	Water Supply Systems	Loss Value US$
Landslides	2,050	1,377	3,101	60	976	337,242
Forest fires	96	10	106,138	1	721	288
Floods	5,673	159	115,938	50,000	1,352	9,733,554
Extreme Rains	213	17	0	0	81	304,131
Droughts	0	0	16,000	3,000	42	69,349
Total	**8,032**	**1,563**	**241,178**	**53,061**	**3,172**	**10,444,566**

37. Flooding events follow the major river systems and travel outwards from the Andes Range, with variability in flood discharge across the mosaics. An assessment of the occurrence of the probability of these flows breaching the

[24] UNDRR. 2021. Sendai Framework for Disaster Risk Reduction. DesInventar database. Accessed May 2021. https://www.desinventar.net/DesInventar/
[25] https://www.desinventar.net/DesInventar/

historical thresholds shows that there is likely a general decrease in all areas other than Central Andes and San Lucas in minimum discharge, leading to lower base flow in the dry periods (see Annex 2). The Central Andes and San Lucas show a near stable overall trend in minimum discharge. Average discharge is increasing in all areas other than the Orinoco Transition. Increased rainfall particular in the north is increasing this average flow. Maximum discharge is increasing in all locations other than the Orinoco. Increases in mean flooding events are more frequent and larger. There is a clear seasonal signal between landslides and rainfall peaks. The correlation between them is 0.73. Without intervention, the increase in monthly peak rainfall events in this area would likely enhance landslide events.

38. There have been severe drought-like conditions over Colombia since 1990. Despite the high total rainfall, there is an increased temperature and subsequent evapotranspiration. This lowers the SPEI rating (long-term Standard Precipitation Index/drought index) to a drier state. The major areas exhibiting this dryness are in the south. There are smaller areas to the north and east that have seen some increased wetness. The SPEI sees recent decreases in the southern Orinoco, Central Andes, and Heart of the Amazon areas. The Northern areas of Caribe and San Lucas see variability but no clear long-term trend. In terms of fire, the majority of fires are in the central northeast to southwest band south of the Andes Range, there is however no clear long-term trend in frequency or severity of fires. From 1960 to 2015, there was a small growing tendency in average annual temperature, as well as a 20% rise in the average number of extremely hot days and nights (1960 to 2006). Average March and December rainfall has also increased, although this has been countered by declines in June and April.

Expected impacts of projected climate change

39. At the regional level the IPCC[26] concludes that the Northwest South America (NWS) and Northern South America (NSA) – an area covering Columbia – has experienced an increase in mean and extreme temperatures and sea level rise and a noted decrease in mean precipitation all with high confidence. The region was also subject to varied changes in drought, dryness, and aridity but this was assessed to have lower confidence. The IPCC projects with high confidence these areas to have increased mean and extreme temperatures. Increasing mean rainfall (high confidence) to the west and decreasing mean rainfall but increased extreme rainfall to the east (medium confidence), decreased cold spells and frost and increasing sea-level rise (high confidence). In the Northern South America (NSA) further projected impacts include increased drought, dryness and aridity, flooding and landslides and winds speeds all with medium confidence, while increased wild fire occurrence has high confidence.

Extreme rainfall events

40. The southwestern area of the country has a higher number of extreme precipitation days (99th percentile). The projected change in extreme rainfall days sees an increase in the western areas and the southwestern areas of the countries. The Andes area has the largest number of extreme PPT days. The peak hourly rainfall intensity is projected to increase in all areas of the country. The largest increase is in San Lucas which has an increase from 6mm/hour peak to 7.5 or 9 mm/hour under RCP4.5 and RCP8.5 respectively. The other areas see an increase of 1-2 mm/hour. The intensity of the flood return events (occurrence probability events) is also increased in each of the areas, this increase ranges from 3-14% for the various return periods under RCP4.5 and from 5-17% for the RCP8.5 return events (Figure 7).

Aridity and drought

41. The aridity in the country is highest in the north and northeast area and to the southwest along the Andes (Figure 8). The projected future sees increasing aridity in the southern and some central areas along the Andes area. There is projected to be a decrease in aridity to the northwest and some areas to the east of the country. From a drought perspective, projections show that the northern areas will experience some variability in the months of each decade, but the dryer months are mostly balanced by the wetter month and the near-normal months. The southern areas see a tendency towards the dryer months, most notability in the Orinoco area correlating with the largest increase in aridity. Despite much of the country projected to experience greater annual rainfall overall, the increase in temperature and subsequent evapotranspiration will lead to further drying of soils and vegetation leading to more drought-like conditions.

Temperature extremes

[26] IPCC AR6 Working Group II - Chapter 12: Central and South America

42. The baseline changes in maximum and minimum temperatures will also shift the temperature profile, the magnitude and frequency of extreme temperature days, and the occurrence frequency of heatwave events. Areas in the central and far south-east have the largest number of extreme temperature days. These areas are also the areas of peak projected increases in the future an additional 50-80 days and 50-100 days annually under RCP4.5 and RCP8.5 scenarios respectively. All areas show an increase in the heatwave frequency of between 25 and 40% at the end of the century. Each area also shows a shifting temperature profile towards warmer temperatures and more extreme heat occurrence. The highest of these is in the Heart of the Amazon which has a median temperature of ~30°C shifted to 33-35°C and extremes going from 35°C to 42°C by the end of the century (Figure 8).

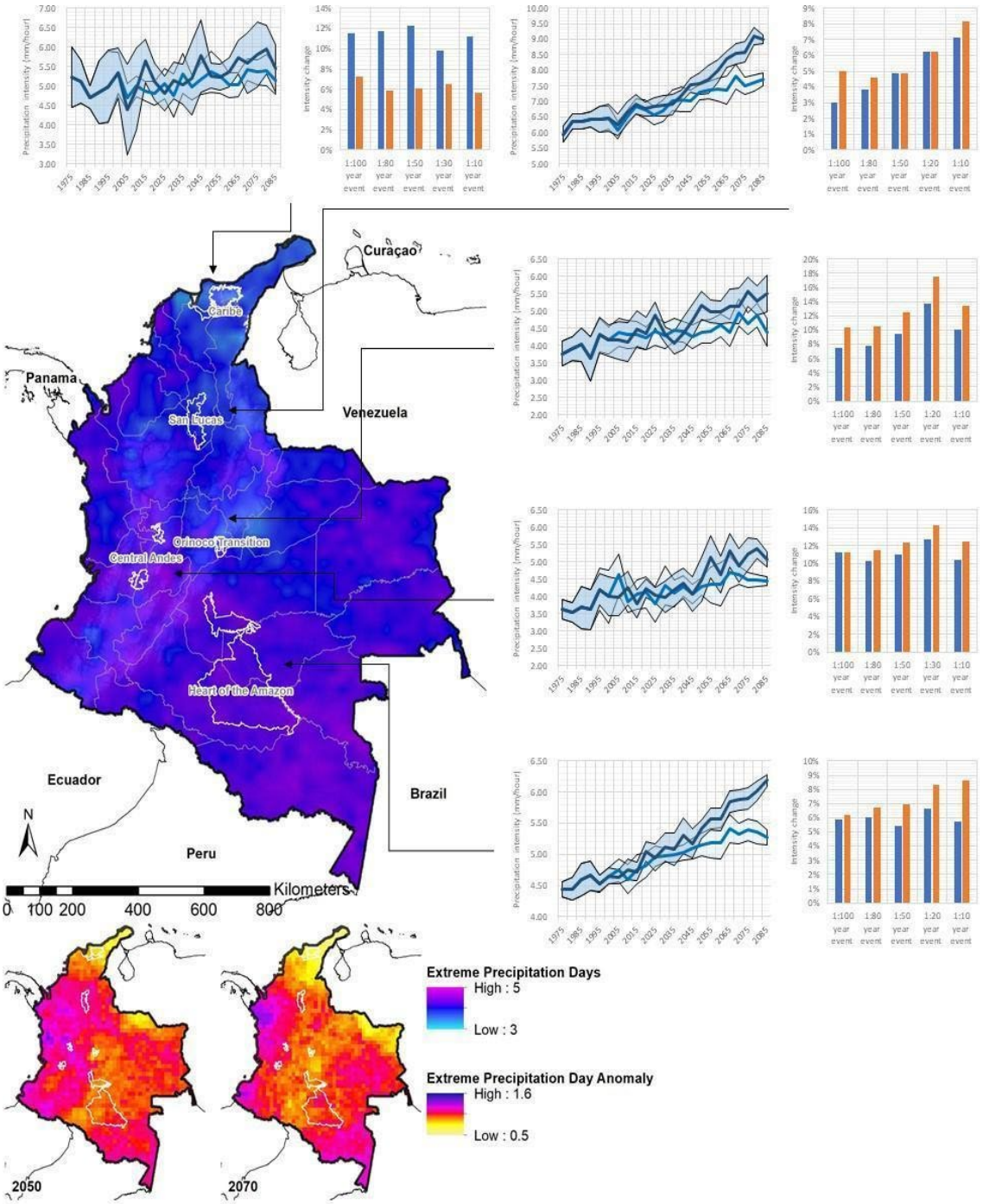

Figure 6. Extreme precipitation days and projected changes (maps) and peak intensity change over time (centre panel), Changes in return event magnitude (right panel).

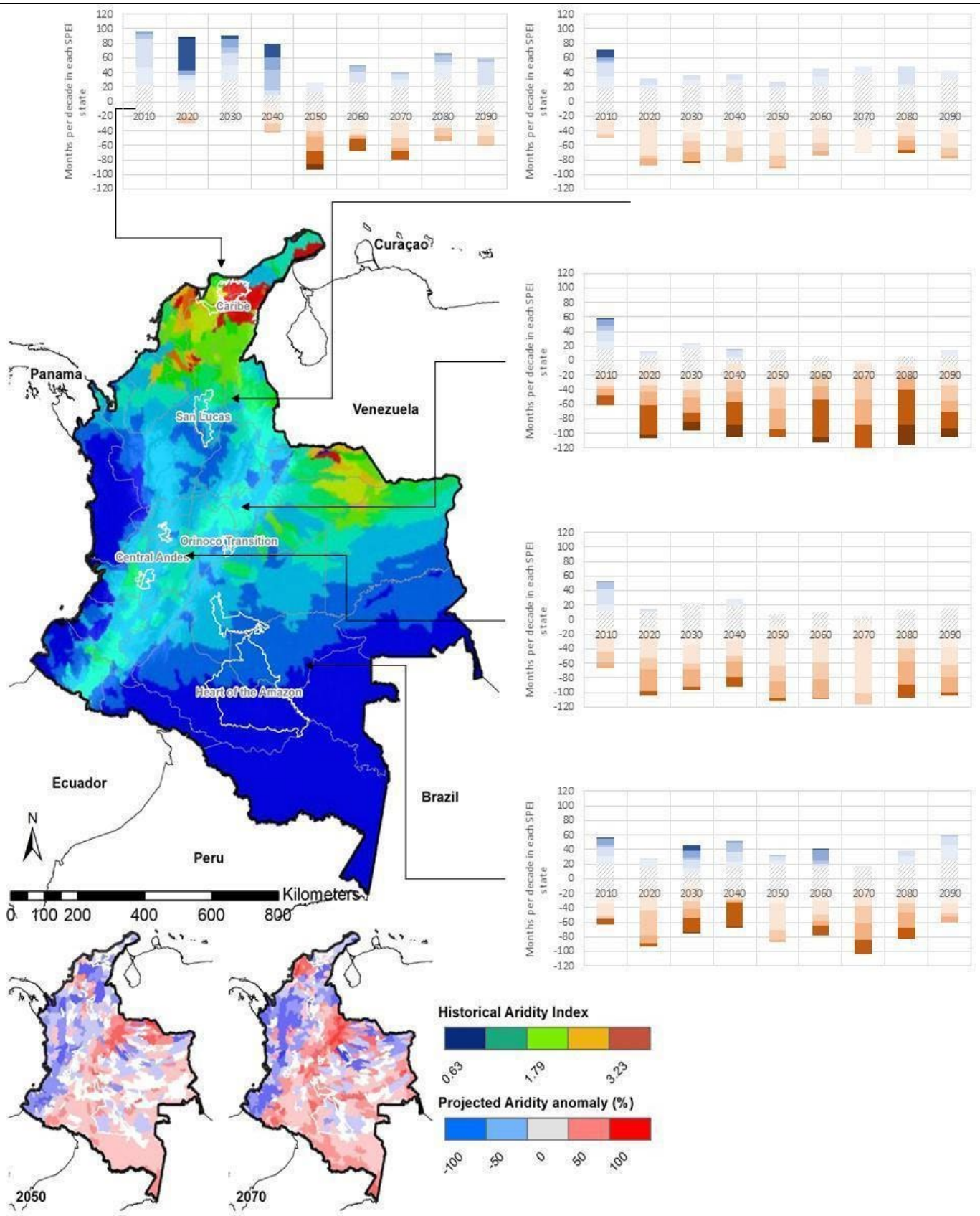

Figure 7. Current aridity index and projected changes to aridity (maps) and change over time of SPEI (right panel).

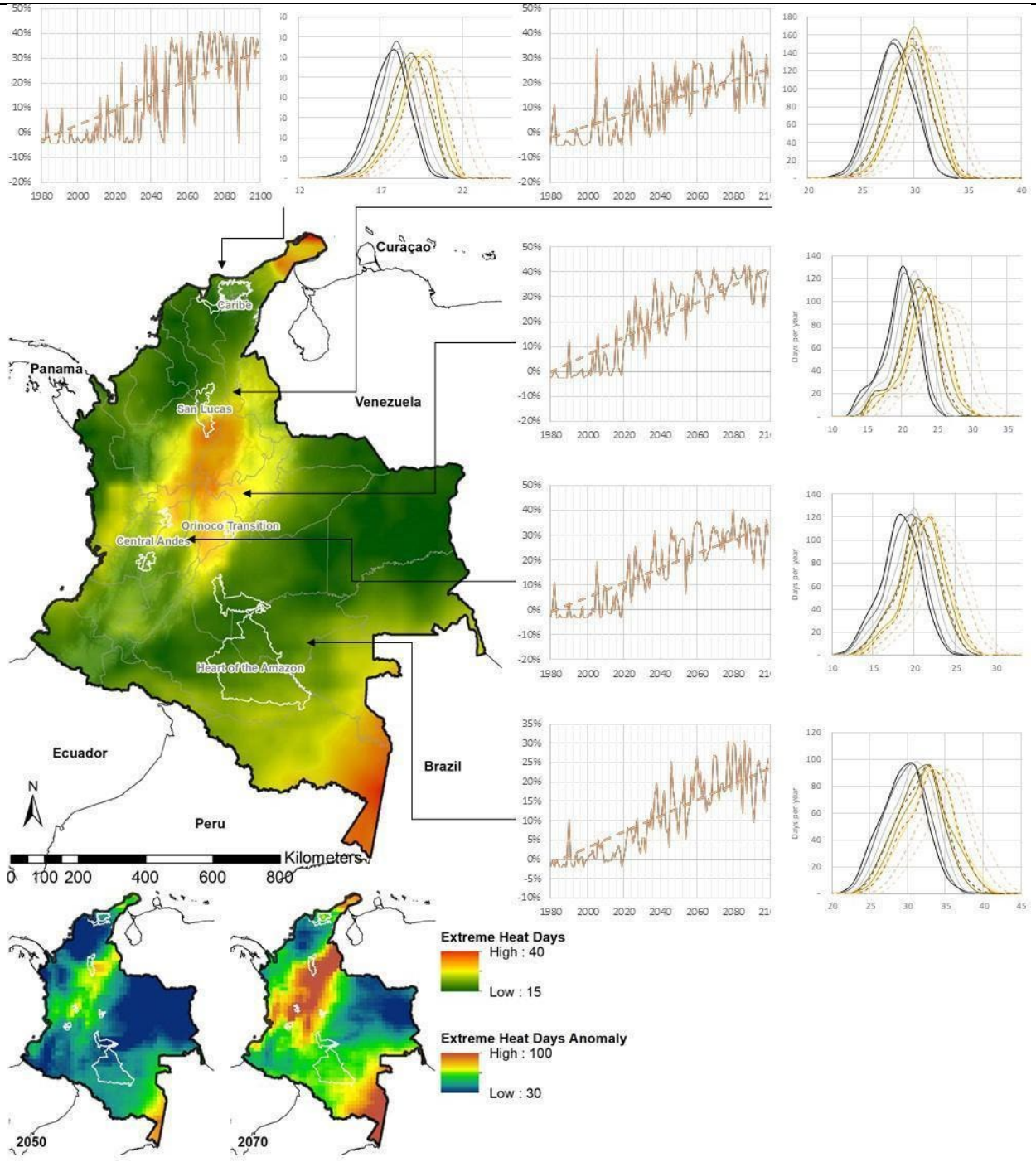

Figure 8. Extreme heat days and projected changes (maps) and change heatwave frequency (centre panel), graphs of temperature profile shift (right panel).

Expected on-the-ground impacts

43. Extreme rainfall and flooding causing damage to property and road infrastructure, while landslides and mudslides, worsened by poor urban design and deforestation, can endanger human populations. Runoff levels in coastal areas are anticipated to grow, impacting places that already experience regular floods and landslides, increasing the likelihood of natural catastrophes. Salinity intrusion from sea-level rise can disrupt trade and destroy communities, impacting the lives and well-being of millions of Colombians living along the coast.

44. While changes in precipitation patterns in Colombia are expected to differ by area, there are also key similarities across all areas that are already affecting the already high fluctuations in water availability in Colombia due to the ENSO

cycles. Reductions in river runoff due to increasing temperatures and fewer rainy days would affect water storage in dams and aquifer recharge. Because the Magdalena River basin supplies 70% of Colombia's hydropower, energy output may be drastically curtailed. Reduced runoff may potentially jeopardize rural and municipal water sources. Watershed runoff is projected to grow along the shore, increasing the probability of natural hazards such as floods and mudslides. Rising sea levels will cause saltwater intrusion into coastal aquifers, severely depleting freshwater supplies. Temperature increases and precipitation declines are predicted to lead to the loss of snow-covered regions as early as 2030.

45. Agriculture in Colombia is vulnerable to increased soil erosion and desertification as a result of increased climate variability, which includes both temperature increases and unpredictable rainfall. Some indicators show that by 2050, rising temperatures will have damaged 80 percent of crops in much of the cultivated region, with high-value commodities such as tropical fruit, cocoa, bananas, and coffee being particularly vulnerable

46. Increased La Niña events may increase the frequency of droughts, impacting water supply and agriculture output. A rise in extreme rainfall events might lead to flooding and landslides, causing agricultural and animal damage and placing subsistence farmers in jeopardy.

47. Rising temperatures are expected to be more pronounced at higher elevations, endangering fragile and distinctive mountain ecosystems and hastening the rate of land degradation. This might also lead to the extinction of unique species like high-altitude flora and animals.

48. Vector-borne illnesses such as malaria and dengue fever will spread when rainfall intensities and temperatures rise. Malaria has grown at higher elevations in the northwest over the last 30 years. Increased storm frequency can potentially contribute to the spread of waterborne illnesses via contaminated water supplies. Rising temperatures can cause more intense and frequent heat waves, placing the elderly in particular danger. Higher temperatures can increase the amount of ozone and other pollutants in the air in places like Bogota and Cali, which already have high levels of air pollution, raising the risk of respiratory illnesses and cardiovascular disease.

49. Shifting precipitation patterns and increasing temperatures will also have direct impacts on ecosystems, shrinking and shifting ranges, and changing biodiversity composition. Potential reductions in precipitation as modeled for the Third National Communication of The Sierra Nevada de Santa Marta National Park and its expansion to the north area of -40% and -25% would have significant direct impacts: the Andean moist forest, the sub-Andean moist forest, and the secondary vegetation associated with the SNSM and the Sierra-Ciénaga would see significant shifts in species composition with such significant declines. In Chingaza National Park, for example, an essential water source for Bogotá, an analysis of páramo extent under future climate scenarios shows losses as high as 40% and 52% in the dry season under RCP 4.5 and 8.5 respectively, indicating permanent loss as warming continues.[27]

Vulnerability to climate change and adaptation needs

50. Colombia is highly sensitive to climate impacts, as a result of strong socioeconomic inequality and poverty (53% of the country and 70% of the rural population below the poverty line) and a legacy of conflict that has displaced about 8 million people,[28] a population uniquely and especially vulnerable to increasing weather extremes.[29] Part of this population is currently claiming their right to either return or be compensated for the loss of their territory and livelihoods; subject to the Integral Rural Reform (RRI, in Spanish) included in the peace agreement. Colombian communities and their livelihoods are affected by several factors that dictate sensitivity, exposure, adaptive capacity and overall vulnerability to the existing impacts and future risks of climate change. The majority of the national population is located in areas where geography and topography increase risks, including flooding, erosion, sedimentation and landslides and mismatches between where water flows and populations live, increasing stress and scarcity, or exposure to coastal

[27] Cresso, M.; Clerici, N.; Sanchez, A.; Jaramillo, F. Future Climate Change Renders Unsuitable Conditions for Paramo Ecosystems in Colombia. Sustainability 2020, 12, 8373. https://doi.org/10.3390/su12208373
[28] https://www.unidadvictimas.gov.co/es/registro-unico-de-victimas-ruv/37394
[29] World Bank Climate Change Knowledge Portal. Colombia Country Profile. Accessed May 1, 2021. https://climateknowledgeportal.worldbank.org/country/colombia

storms and sea level rise on coastlines. These along with the related adaptation needs are described further below (additional detail is provided in Annex 2).

51. Existing high precipitation variability in many regions, defined by seasonal and interannual ENSO changes, resulting in enormous seasonal and interannual shifts in water flows and availability, from too much to too little, is causing associated hazards in droughts and floods impacting infrastructure, crops, and household incomes. An increasing proportion of Colombia's water supply is highly vulnerable to water deficits, scarcity, and reduced quality. **The National Water Study estimates that almost 50% of the urban population is vulnerable to water scarcity on an average year, and that this proportion may increase to reach up to 80% during dry years**.[30] While Colombia is one of the water richest countries in the world, there is a significant mismatch between where water is available and where populations are concentrated, resulting in one third of the total urban population already living under water stress.[31] In the Orinoco Transition landscape, where Bogota and surrounding locations (more than 10 million people) take water from the Chingaza Paramos System, water supply is already reduced by 62% in dry periods, constraining availability of the high quality, cleaner flows from the Paramos. Climate change will likely exacerbate these trends, further impacting land use, economic transactions, and human wellbeing, as declining agricultural productivity from drought, flooding, fire and other hazards increases expansion into protected areas, shifts livelihoods to new sources, and directly reduces income.

52. Agricultural and subsistence-based livelihoods in poor and marginalized communities with often limited access to modern farming technology and basic infrastructure and services are highly dependent on ecosystem services. For example, analysis of the dairy and cattle ranching sectors projects production declines of roughly 8% and 2% production nationally, with losses as high as nearly 15% in some departments, as a result of reduced biomass in high altitude pastures from rising temperatures and reduced rainfall.[32] Corn, rice, and potato production were all projected to decline by 7.4% average across three climate scenarios. Climate susceptibility and land suitability of crops directly affect food productivity and consequently decrease food security.[33] Based on modelled expected changes in crop suitability areas due to climate change, municipalities across four intervention mosaics (data not available for San Lucas) are expected to suffer from medium-to-low changes in areas optimal for the production of different agricultural crops (see full mosaic descriptions in Annex 2). In addition, all mosaics will face changes in water supply/demand for animal husbandry and agriculture, with low projected changes for the Heart of Amazon and the Central Andes, low-to-medium changes in the Orinoco, and high changes in the Caribbean. The vulnerability of the agriculture sector can be expressed with regards to income level. The agriculture sectors in the Caribbean and Heart of the Amazon mosaics are most vulnerable because they have the lowest incomes, with 6.3% and 6.7% of GDP participation, respectively. The San Lucas, Orinoco and Central Andes have progressively higher incomes, with 15.3%, 18% and 20.9% of GDP participation, respectively.

53. For 2020, 18.1% of the Colombian population live below the multidimensional poverty line and 42.5% below the monetary poverty,[34] with the highest levels of municipal multidimensional poverty found predominantly in the Orinoquía-Amazonía and Pacific regions, and the lowest levels in municipalities located in the Central and Eastern regions of the country. In addition, some of these areas have been severely affected by the conflict, which has an interrelation with poverty and lack of institutional presence. Sensitivity and adaptive capacity are inextricably linked by how poverty and inequality affect a population's capacity to cope with the negative impacts of increasing climate variability and to mitigate climate risk. This is evident across the project's target mosaics where the adaptive capacity and sensitivity of local populations are largely determined by the natural capital of and ecosystem services (such as water provision) supplied by PAs, which is inherently dependent on the effective management of these areas. Furthermore, across landscapes, there is a significant limited access to locally downscaled and site-specific climate information, which compounds local socioeconomic vulnerability. Weather and other hydro-meteorological station data (forecasts, water flows) is unavailable in many project implementation areas, and especially across the protected area

[30] IDEAM (2019). Estudio Nacional del Agua 2018. Bogotá: Ideam: 452 pp.
[31] OECD. 2014. Environmental Performance Reviews: Colombia. https://www.oecd.org/colombia/Colombia%20Highlights%20english%20web.pdf
[32] BID y Departamento Nacional de Planeación, 2015. Impactos Económicos del Cambio Climático en Colombia: Sector Ganadero. https://publications.iadb.org/es/impactos-economicos-del-cambio-climatico-en-colombia-sector-ganadero[33] Esperón-Rodríguez, M., Bonifacio-Bautista, M. & Barradas, V.L. Socio-economic vulnerability to climate change in the central mountainous region of eastern Mexico. Ambio 45, 146–160 (2016). https://doi.org/10.1007/s13280-015-0690-4
[33] Esperón-Rodríguez, M., Bonifacio-Bautista, M. & Barradas, V.L. Socio-economic vulnerability to climate change in the central mountainous region of eastern Mexico. Ambio 45, 146–160 (2016). https://doi.org/10.1007/s13280-015-0690-4
[34] https://www.dane.gov.co/index.php/estadisticas-por-tema/pobreza-y-condiciones-de-vida/pobreza-monetaria

network, reducing adaptive capacity or early warning for farmers and protected area managers alike. In addition, the generation of information on ecosystems services, including hazard risk reduction is still dispersed and out of reach for some users at relevant sub-national and local scales for opportune decision-making. Communities affected by poverty, who in many cases have strong indigenous knowledge of land management, nonetheless have limited technical capacity and know-how for both less-destructive farming and land and water-use practices, and similarly limited adaptive capacity for farming practices more resilient to increasing weather extremes and associated hazards. Finally, many communities are isolated, with limited access to public services and infrastructure.

GHG emissions profile

54. The average storage of Carbon in the aboveground biomass (BA) of natural forests in Colombia is 104.05 tons of carbon per hectare (t C/ha) +/- 2.18 t C/ha with a standard error of 0.43%. Carbon reserves are estimated at 7,144 million tons of carbon (Mt C), representing 26,221 million tons of carbon dioxide equivalent (Mt $CO_{2e)}$ not yet emitted to the atmosphere[35]. However, this amount of carbon stored is threatened by land use changes and deforestation described in detail in Annexes 2 and 22. According to the National Greenhouse Gas Inventory in 2012 the country's GHG emissions were 185.6 Mt CO_{2eq}, 43% of which came from AFOLU sources, with deforestation contributing approximately 35% of those (15.75% of the country's total emissions). Aboveground and belowground biomass and soil organic carbon representing the emissions profile of the project's target geograhiesare presented in Table 3 (Note that San Lucas is part of the Andes stratum under the FREL submission).

Table 3. Biomass and emissions factor of natural forest in the project's target mosaics[36].

Forest Region	Aboveground biomass (t/ha)	Belowground biomass (t/ha)	Total biomass (t/ha)	Soil organic carbon (COS) (t/ha)	COS 20_{years} ($tCO_{2eq}ha^{-1}$)	Total Emissions (t CO_{2eq} ha^{-1} $year^{-1}$)
Amazon	258	57	315	74	14	557
Andes	154	35	189	125	23	349
Caribbean	130	30	160	101	19	295
Orinoco	86	21	106	65	12	196
San Lucas	154	35	189	125	23	349

55. The Heart of the Amazon Mosaic has the highest CO_{2e} emissions (1.5 million tCO2eq on average between 2008-2017) specially around the Macarena – Chiribiquete corridor. The to-be designated protected area, San Lucas, is also an important source of emissions, reaching ca. 0.4 million tCO_{2e}, on average. Over this period, the geographies targeted saw an average loss of 4,478 ha annually between with average emissions of 2.14 million tCO2eq. These areas harbor 9.11% of remaining forest area in Colombia, representing 10.8% of remaining carbon stocks. The loss seen between 2008-2017, represents 2.28% of the loss reported by Colombia in its FREL for the same period (Table 4, Figure 9).

Table 4. Reference level for the targeted areas.

	Forest 2019 (ha)	Stocks 2019 (tCO2eq)	Deforestation (ha) (2008-2017)	Annual forest lost (ha) (2008-2017)	Annual Average Emissions from deforestation (tCO2eq)
Overall totals	5,442,283	2,824,327,532	44,332	4,478	2,141,832
% of national totals	9.11%	10.78%	3.12%	3.12%	2.28%

[35] Phillips, J.F., Duque A.J., Yepes A.P., Cabrera K.R., García M.C., Navarrete D.A., Álvarez E., Cárdenas D. 2011. Estimación de las reservas actuales (2010) de carbono almacenadas en la biomasa aérea en bosques naturales de Colombia. Estratificación, alometría y métodos analíticos. Instituto de Hidrología, Meteorología, y Estudios Ambientales -IDEAM-. Bogotá D.C., Colombia. 68 pp

[36] MADS, IDEAM. 2018.

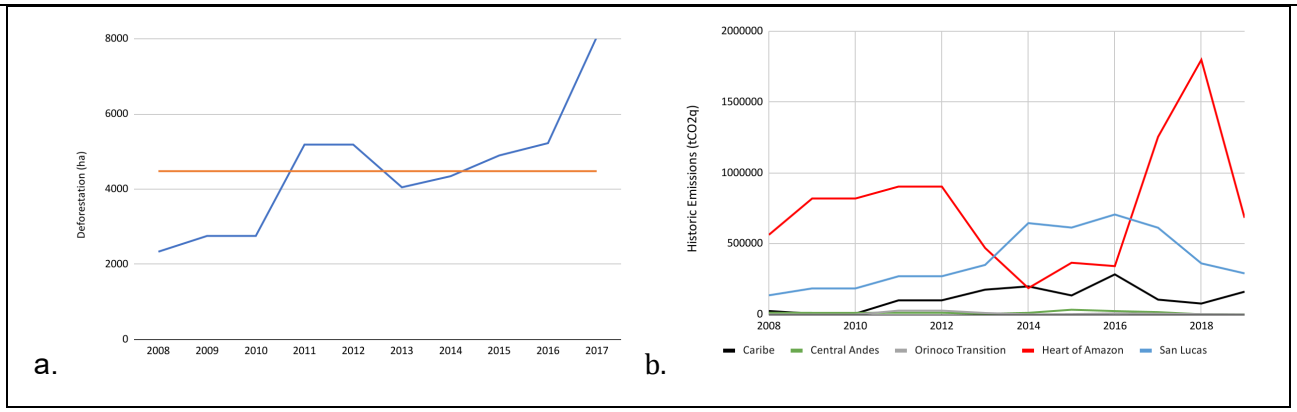

Figure 9. Historic emissions from deforestation (tCO_{2eq}): **a**. Total for all mosaics (blue), with reference level (orange); **b**. for each mosaic[37].

Current Paradigm of Deforestation and Land Use Change

56. During the period 1990-2020, 7.28 million hectares were deforested throughout the country[38]. Historic annual forest loss at national scale is dynamic, with the highest value observed in 2017 with 219,552 ha deforested[39]. Deforestation is a complex phenomenon that involves different sub-systems, such as the economy, environment, society and policy, and - in the case of Colombia - the withdrawal of the FARC following the peace accords. Studies have shown that in this case, deforestation is mainly caused by illegal activities, which are attractive as they generate economic income and have low or nonexistent punishment. The main illegal activities contributing to the current paradigm of deforestation are agricultural expansion (including illegal crops), land grabbing, illegal mining, illegal infrastructure, and illegal wood extraction.

57. According to Arias-Gaviria, et al. (2021) analysis of deforestation dynamics using the system thinking approach, where Causal Loop Diagrams were used to identify drivers of deforestation at national and regional scales, interactions between drivers can generate reinforcing (R) or balancing (B) feedback loops. In the case of deforestation, there are three main reinforcing loops: 1) Available areas for non-sustainable legal activities (agriculture, livestock, and mining expansion); 2) Available areas for illegal activities (coca, mining, and timber extraction); and 3) Unplanned infrastructure, that will keep increasing deforestation as long as these activities are profitable. **The balancing loops that could slow down and stop deforestation are determined by governance schemes (sustainable territorial planning), the self-regulation of local communities, and financial mechanisms for conservation.** [40] Detailed driver assessment results for each project geography are included[41].

58. Deforestation and forest degradation have been shown to be intertwined: as deforestation progresses, degradation of forests and the services these provide do as well.[42, 43] Alongside increasing emissions, these same drivers of deforestation and land degradation similarly compromise ecosystem services essential for resilience and disaster risk reduction.[44,45] Land use change, particularly deforestation or wetlands conversion, contributes significantly to increased risk of landslides and flooding as they increase river runoff, sediment deposition, and soil instability; and

[37] WWF 2021. Calculated with data from IDEAM-SMByC.
[38] Instituto de Hidrología, Meteorología y Estudios Ambientales - IDEAM. 2019. Subdirección de Ecosistemas e Información Ambiental. Grupo de Bosques 2019. Sistema de Monitoreo de Bosques y Carbono (SMBYC). Bogotá, D. C., Colombia
[39] 2020 FREL submission: https://redd.unfccc.int/files/02012019_nref_colombia_v8.pdf
[40] Arias-Gaviria et al 2021. Drivers and effects of deforestation in Colombia: a systems thinking approach. Regional Environmental Change (2021) 21:91.https://doi.org/10.1007/s10113-021-01822-x
[41] https://static-content.springer.com/esm/art%3A10.1007%2Fs10113-021-01822-x/MediaObjects/10113_2021_1822_MOESM1_ESM.pdf)
[42] Shapiro et al. 2020. Forest condition in the Congo Basin for the assessment of ecosystem conservation status. Ecological Indicators, Volume 122, 2021. https://doi.org/10.1016/j.ecolind.2020.107268 .
[43] Watson, J.E.M., Evans, T., Venter, O. et al. The exceptional value of intact forest ecosystems. Nat Ecol Evol 2, 599–610 (2018). https://doi.org/10.1038/s41559-018-0490-x.
[44] Watson, J.E.M., Evans, T., Venter, O. et al. The exceptional value of intact forest ecosystems. Nat Ecol Evol 2, 599–610 (2018). https://doi.org/10.1038/s41559-018-0490-x
[45] Celentano et al. 2016. Degradation of Riparian Forest Affects Soil Properties and Ecosystem Services Provision in Eastern Amazon of Brazil. Land Degradation and Development. https://doi.org/10.1002/ldr.2547

reduced water quality and availability,[46,47] particularly with the loss of high altitude páramos.[48] An assessment of sediment loads in the Magdalena river, for example, found 9% of the total load was due to deforestation in the Andes, with a 33% increase in erosion in the basin from 1972-2010, due in part to 70% clearance of natural forests between 1980 and 2010.[49] In the tropical Andes, slope stability has been shown to rapidly decline after forests are converted to pastures;[50] and decades of high deforestation was shown to be one cause of the 2016 landslide that affected 60,000 people in the City of Mocoa in the Putumayo region.[51] Landslide risks are not surprisingly significant in multiple mosaics: the Caribbean, San Lucas, Central Andes, Orinoco Transition (see Figure 17 and Annex 2 for detailed maps by mosaic).

59. Slash and burn agriculture compounds the increasing incidence and risks of fires as overall aridity increases in many regions with rising temperatures and increasingly intense, prolonged droughts, due to both global warming and loss of local climate regulation services provided by intact forests. For example, areas in the Amazon of severe deforestation, where canopy cover has declined by more than 70%, have shown an associated half degree C increase in average temperatures.[52] As a result, forest fires have increased significantly in recent years due to both drought and land clearing for agriculture and cattle ranching, threatening invaluable contributions to both regional and global climate regulation as dieback increases, ultimately threatening an entire biome shift from forest to grassland. This would cause a catastrophic outcome via the loss of critical ecosystem services, including water provision and hydropower energy generation to major urban centers and significant loss of the world's largest carbon sink.

Deforestation dynamics in the project's target mosaics and entry points for interventions

Historical deforestation trends

60. Intensity of deforestation in recent years is putting pressure on Colombia's protected areas, with historical deforestation trends showing hotspots to the northeast of the Heart of the Amazon and the south of San Lucas. The area-weighted deforestation peak shows the year where larger areas are deforested, indicating that northeast of the Heart of the Amazon is experiencing more recent significant losses. Intensity is increasing to the south of San Lucas in more recent years.

61. The long-term trends also show an average increase in the area lost annually. Red colors denote that there is an increasing deforestation trend toward the protected areas, while a green color denotes a decreasing trend in the area lost. Areas with a decreasing trend tend to be in areas lost in the more distant record.

[46] Sheil, D. & Murdiyarso, D. How forests attract rain: an examination of a new hypothesis. Bioscience 59, 341–347 (2009).https://doi.org/10.1525/bio.2009.59.4.12
[47] Bonan. G.B. Forests and Climate Change: Forcings, Feedbacks, and the Climate Benefits of Forests. Science 13 Jun 2008:Vol. 320, Issue 5882, pp. 1444-1449 DOI: 10.1126/science.1155121 .
[48] Sedano-Cruz, K., Carvajal-Escobar, Y., Diaz Avila, A.J. 2013. ANÁLISIS DE ASPECTOS QUE INCREMENTAN EL RIESGO DE INUNDACIONES EN COLOMBIA. Luna Azul No. 37, julio-diciembre 2013.
[49] Restrepo, J.D., Kettner, A.J., Syvitski, J.P.M., 2015. Recent deforestation causes rapid increase in river sediment load in the Colombian Andes. Anthropocene 10, 13–28. https://doi.org/10.1016/j.ancene.2015.09.001
[50] Guns, M. & Vanacker, V. Forest cover change trajectories and their impact on landslide occurrence in the tropical Andes. *Environ. Earth Sci.* **70**, 2941–2952 (2013).
[51] Zimmerman, Maria Lourdes. 20 April 2017. Mongabay. A foreseen environmental disaster in Colombia? https://news.mongabay.com/2017/04/a-foreseen-environmental-disaster-in-colombia/
[52] Baker, J. C. A. & Spracklen, D. V. Climate Benefits of Intact Amazon Forests and the Biophysical Consequences of Disturbance. Front. For. Glob. Change 2, (2019).

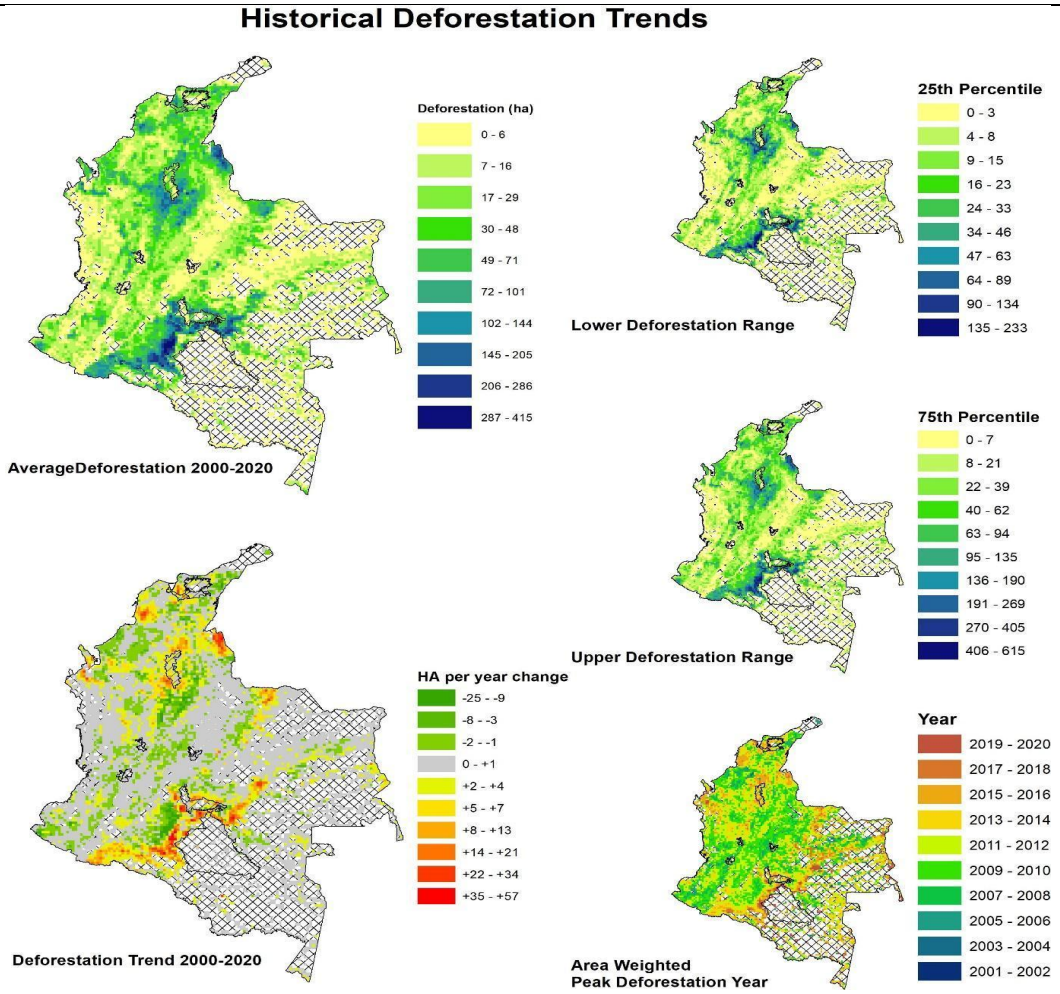

Figure 10. Historical deforestation ranges and long-term trends.

Estimated historical deforestation drivers

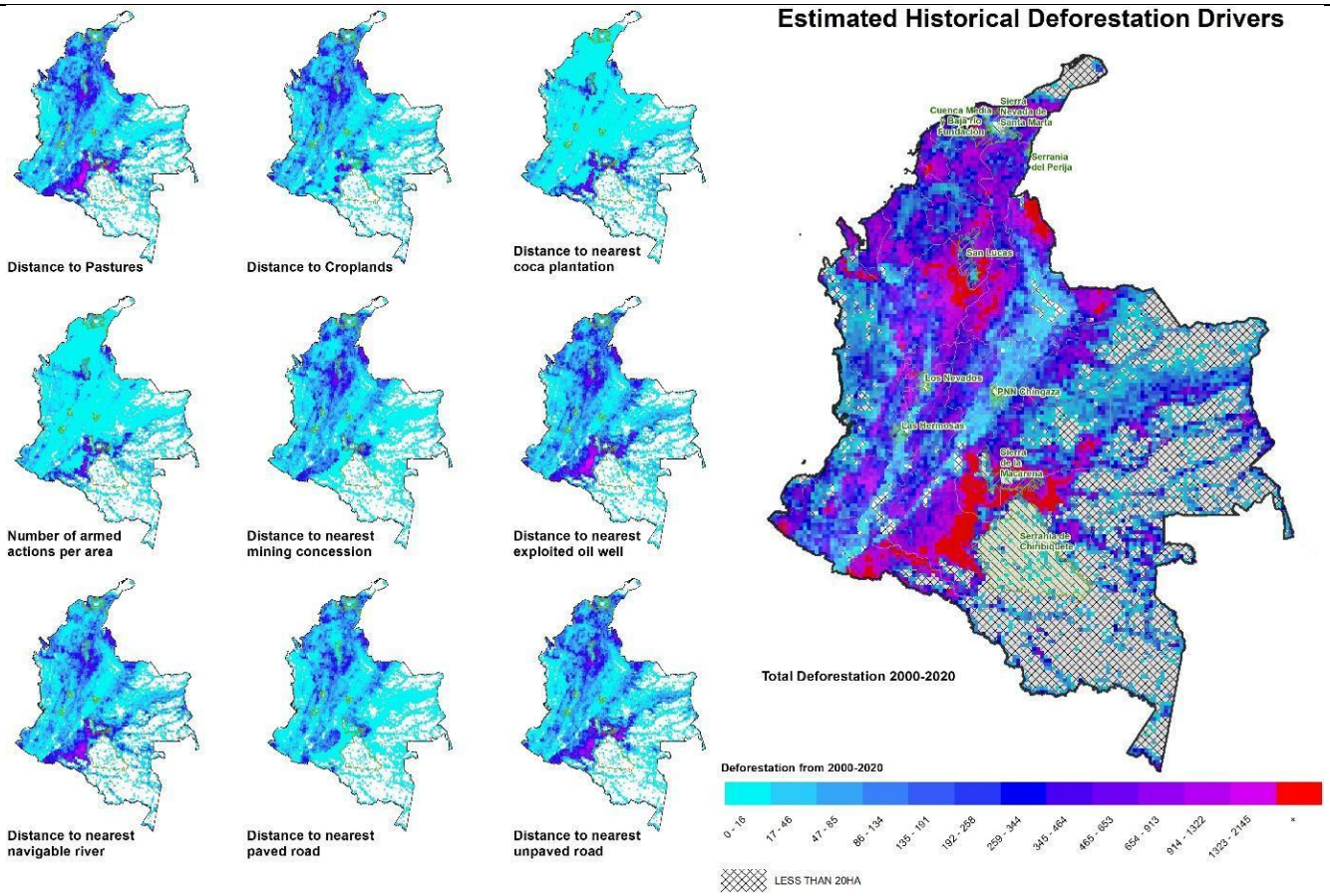

Figure 11. Estimated contribution of each driver to forest losses 2000-2020.

62. In the central and eastern areas of the country, where the majority of the deforestation is noted, pastures and croplands with well-demarcated spatial coverage are the most clear, impactful drivers . Drivers such as mining and oil exploitation are more difficult to quantify despite having a demarcated area of activity. These estimates should therefore assume that if mining or oil exploitation is responsible for deforestation, the spatial pattern denotes where these are likely to be the case.

63. The same problem is present with the “access” drivers of navigable rivers and paved/unpaved roads. These may be in close proximity to crop or pasture areas, making isolating the cause of the deforestation difficult. However, what is clear is that the river and unpaved road access matches the deforestation patterns of pasture. The more established paved road areas have a higher spatial correlation to the cropland areas in the northern areas of the country around San Lucas. Similarly, the newer “frontier” deforestation moving closer to the Heart of the Amazon is driven by pasture, but facilitated by river and unpaved road access.

64. Figure 12 illustrates the detailed assessment of drivers and feedback loops for the two project mosaics that contribute to most of the expected mitigation impact: the Heart of the Amazon and San Lucas. Similarly, these figures present how the project contributes to the targeted feedback loops and drivers of deforestation such as **livestock, infrastructure expansion (legal and illegal), land grabbing and illegal crops**, as well as how the project is articulated with the National Policy for Deforestation Control and Sustainable Forest Management and the consolidation of SINAP policy.

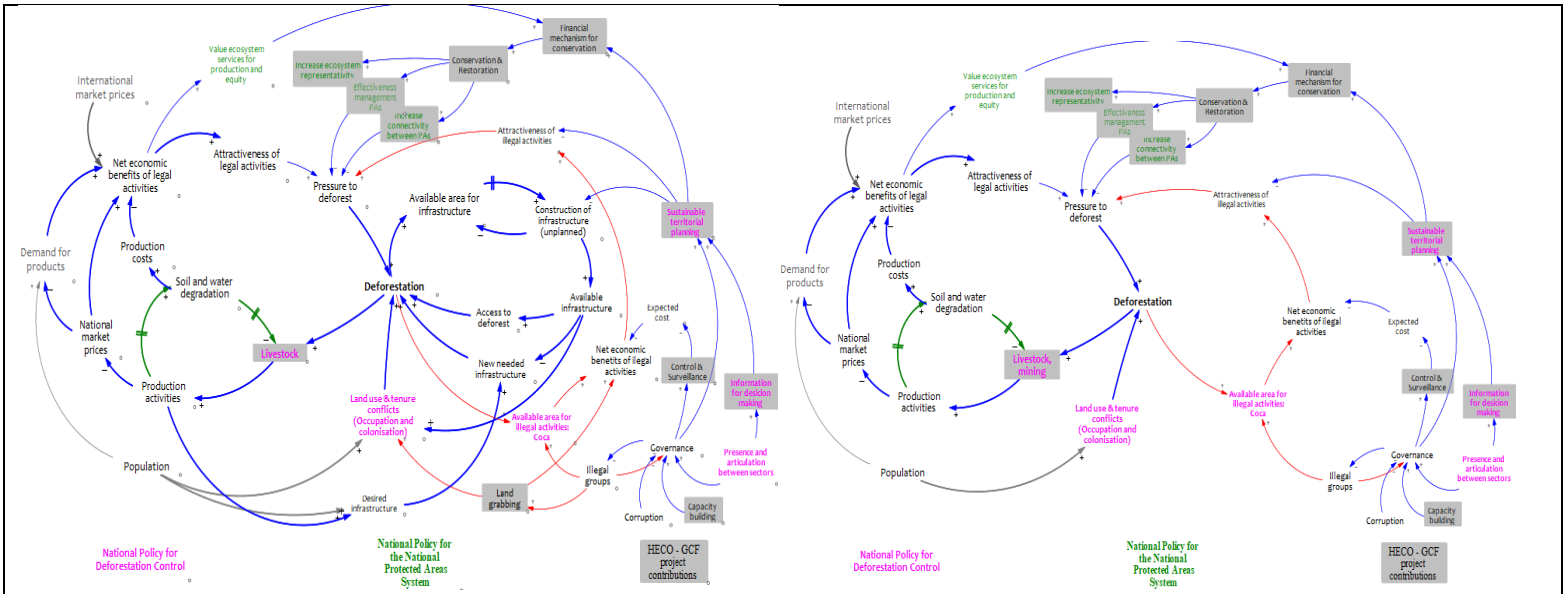

Figure 12. Causal Loop Diagrams (CLD) for Deforestation in the Heart of the Amazon mosaic (left) and the San Lucas mosaic (right). In green, the entry points of the SINAP, in purple, the entry points of the NPDC and in grey the entry points of HECO-GCF.

Future deforestation risk drivers

65. Potential deforestation drivers (distance to pastures, croplands and coca plantations, the number of armed actions per area, distance to nearest mining concession and nearest exploited oil well, as well as access drivers of distance to the nearest navigable river, nearest paved road, and nearest unpaved road) are assessed through use of Euclidian distances creating a proximity-based “driver pressure” surface. These maps (see Figure 13) are an indication of the potential livelihoods or access routes that may result in future deforestation. From the analysis, we can see that there is significant pressure in the central areas of the country. It appears the main pressures near the Heart of the Amazon and San Lucas are pastures and cropland encroachment as the clearing signature is more structured than is normally noted with logging and mining.

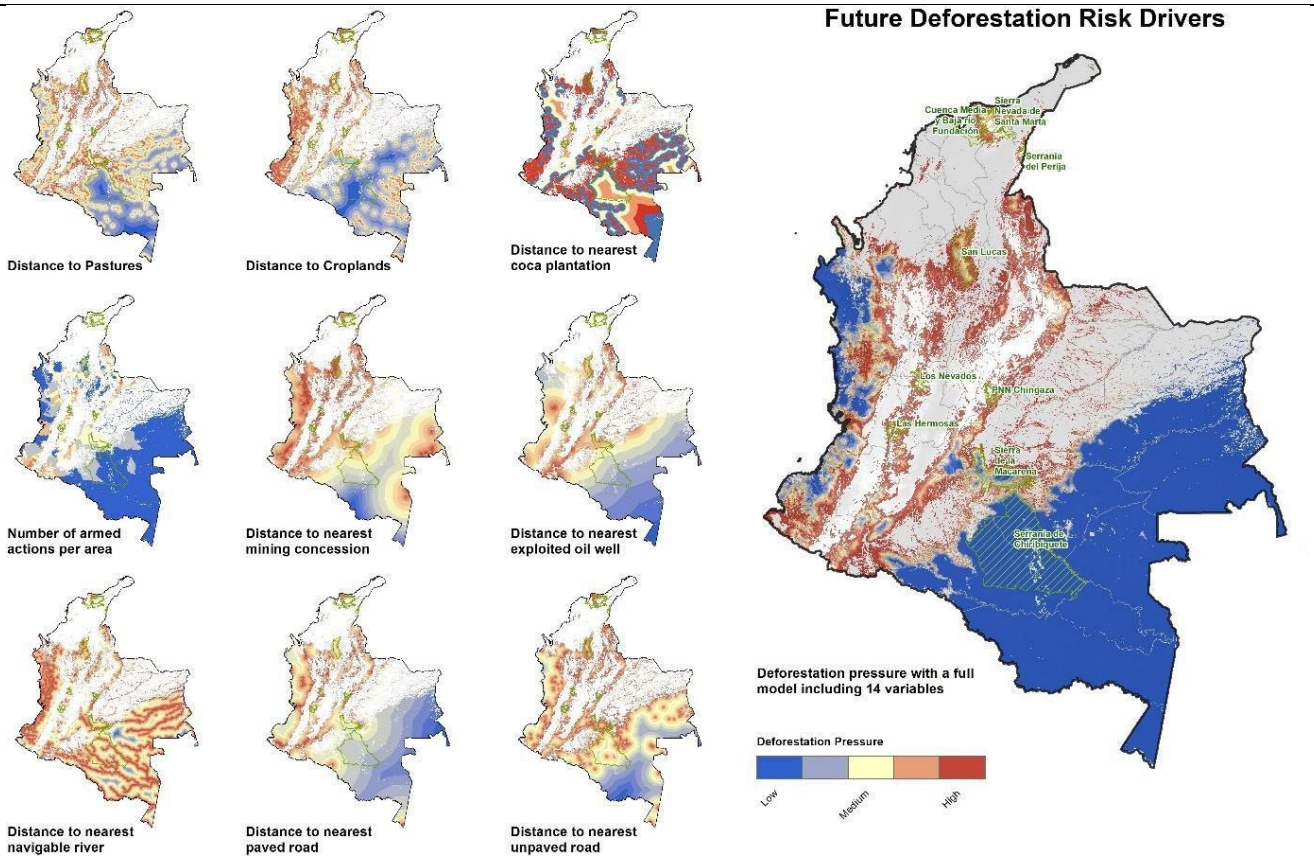

Figure 13. Future deforestation driver risk.

Problem and proposed project approach

66. Nowhere are these pressures more pronounced and complex than in and around vulnerable forested areas in Colombia's National System of Protected Areas, despite the system's extensive coverage and significant natural asset base. After enduring five decades of armed conflict with the Revolutionary Armed Forces of Colombia (FARC) until a peace agreement was signed in 2016, the country is confronting a new wave of deforestation and significant alterations of terrestrial socio-ecological systems, leading to increased emissions and further compromising the ability of these ecosystems to adapt to climate change. Based on the analysis presented in Annex 2[53], data indicates that most finance currently being directed at addressing deforestation in Colombia is focused on land outside of protected areas where commodity supply chains are driving the problem. The critical deforestation drivers are receiving considerable attention (see Figure 15 below), as more than 30 cross-cutting initiatives are addressing deforestation drivers outside of protected areas in and around the project's target mosaics.

[53] As ~70% of the proposed project's mitigation impacts will be delivered in the Heart of the Amazon mosaic, it is the focus of this mapping exercise. However, information is also provided on some finance flows addressing deforestation drivers in the San Lucas mosaic, which also comprises a considerable proportion of the project's mitigation efforts.

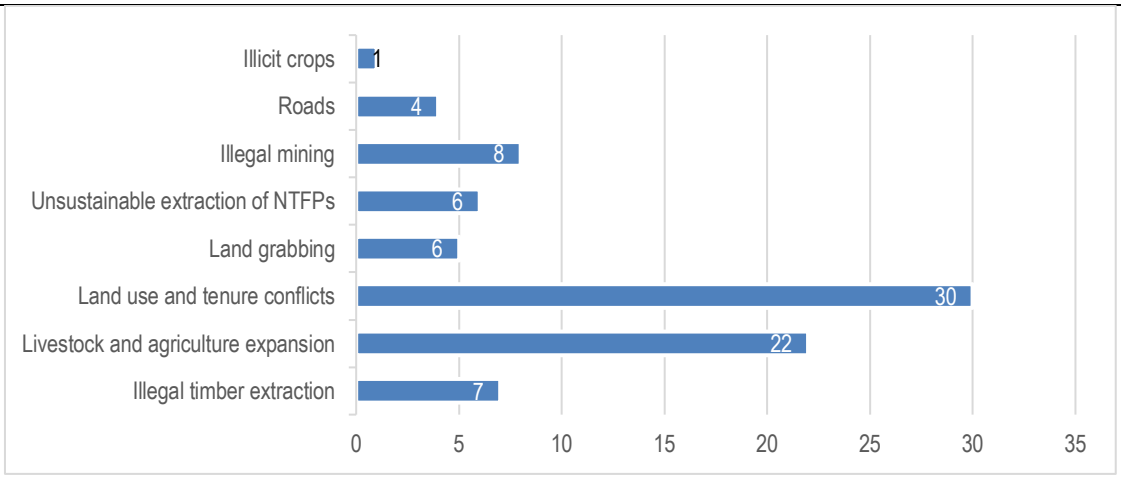

Figure 15. Deforestation drivers and estimated number of initiatives in and around the project's mosaics addressing them. (See complete details in Annex 2e Deforestation and financial flows analysis.)

67. Although unsurprising, as this is aligned with the government's national policy on deforestation and related targets, the limited amount of finance being channeled into the country's protected areas to reduce and avoid deforestation through conservation is a major gap in the landscape. A shift in this paradigm in Colombia is therefore required, both to avoid the duplication of financial flows aimed at addressing commodity-driven deforestation (which, without a doubt, requires major additional financial flows to combat) and to ensure that a systems thinking approach is used to address deforestation at the landscape-level, one that targets drivers inside and outside of protected areas.

68. The current total coverage of SINAP is 31,061,147 hectares (15% of the total country) including 18,243,967 hectares of terrestrial ecosystems in different categories of PAs. Included in the PA system's natural asset base are twelve million hectares of forests, corresponding to a carbon reservoir of 6,343 million tCO2e representing up to 24.2% of national carbon stocks.[54] The largest extension of forests in 2019 is recorded in the Amazon with more than 9 million hectares and a reservoir of carbon of 5,192 million tCO2e, equivalent to 81.85% of the total forest carbon of the national system of protected areas. At least 19 protected areas of the system provide drinking water for more than 25 million people, for an estimated annual value of US$ 491 million[55]. An analysis of water provisioning during average and dry years for the five hydrographic zones of Colombia, demonstrates that the sub-zones where National Parks are located have between 25 and 30% additional water available as compared to those sub-zones without national parks[56]. It has been estimated that water provisioning and regulation services provided by the national parks add at least US$ 2.3B to the GDP for an average year[57]. Fifty percent of the hydro-energy produced in Colombia uses water provided by the national system of protected areas, with an estimated value of US$ 502 million.

69. Despite the current coverage of the SINAP, the connectivity of the system is limited, the effectiveness of current management is low, the distribution of the costs and benefits of biodiversity conservation is clearly inequitable, while the drivers of landscape transformation are increasing. As highlighted in a recent study conducted in Colombian national parks and national reserves using an open-access global forest change dataset, 31 of the 39 PAs in the country (79%) have experienced increased deforestation in the post-conflict years.[58] This can be seen in a dramatic and highly significant 177% increase in the average deforestation rate between the two 3-year periods before and after the peace agreement. Long-term maintenance of SINAP is therefore uncertain, especially considering the variability generated by climate change.

[54] Sistema de Parques Nacionales Naturales 2020. Atlas de Carbono en áreas protegidas del sistema de parques nacionales naturales – SPNN. Subdirección de sostenibilidad y negocios ambientales. Bogotá.
[55] UAESPNN. 2017. Aporte de los Parques Nacionales Naturales al desarrollo socioeconómico de Colombia. Bogotá, Parques Nacionales Naturales
[56] Parques Nacionales Naturales de Colombia 2014. Importancia económica de la provisión y regulación hídrica de los Parques Nacionales Naturales de Colombia para los sectores productivos del país.
[57] UAESPNN. 2017. Aporte de los Parques Nacionales Naturales al desarrollo socioeconómico de Colombia. Bogotá, Parques Nacionales Naturales.
[58] Deforestation in Colombian Protected Areas increased during Post-Conflict Periods, N. Clerici, D. Armenteras et al, Nature Scientific Reports | (2020) https://pubmed.ncbi.nlm.nih.gov/32188909/

70. Within the Amazon mosaic – of which FARC previously controlled vast areas – several parks have suffered notably severe upswings in deforestation following the peace agreement, both within the PAs and in buffer zones. A prime example is the case of Serranía de la Macarena NNP, which has seen an overall post-conflict increase of +158% in forest conversion in the PA buffer zone (10 km). The parks' buffer zones are critically important not only because they limit the pressure for habitat conversion within the parks, but also because they mitigate the well-known effects of ecological isolation and reduced ecosystem functionality.

71. The SINAP system lacks the conditions for Effective Management: a resource management framework that moves park systems progressively towards increased management strength and impact as shown in Figure 14 below. Upon achieving **Structural level**, the PA has acquired the human and technical resources to effectively control deforestation and other illegal activities inside the PA perimeter. Under **Optimal level** management, PAs have the resources to financially sustain management actions over long timeframes, including expansive relationships with neighboring communities and stakeholders.

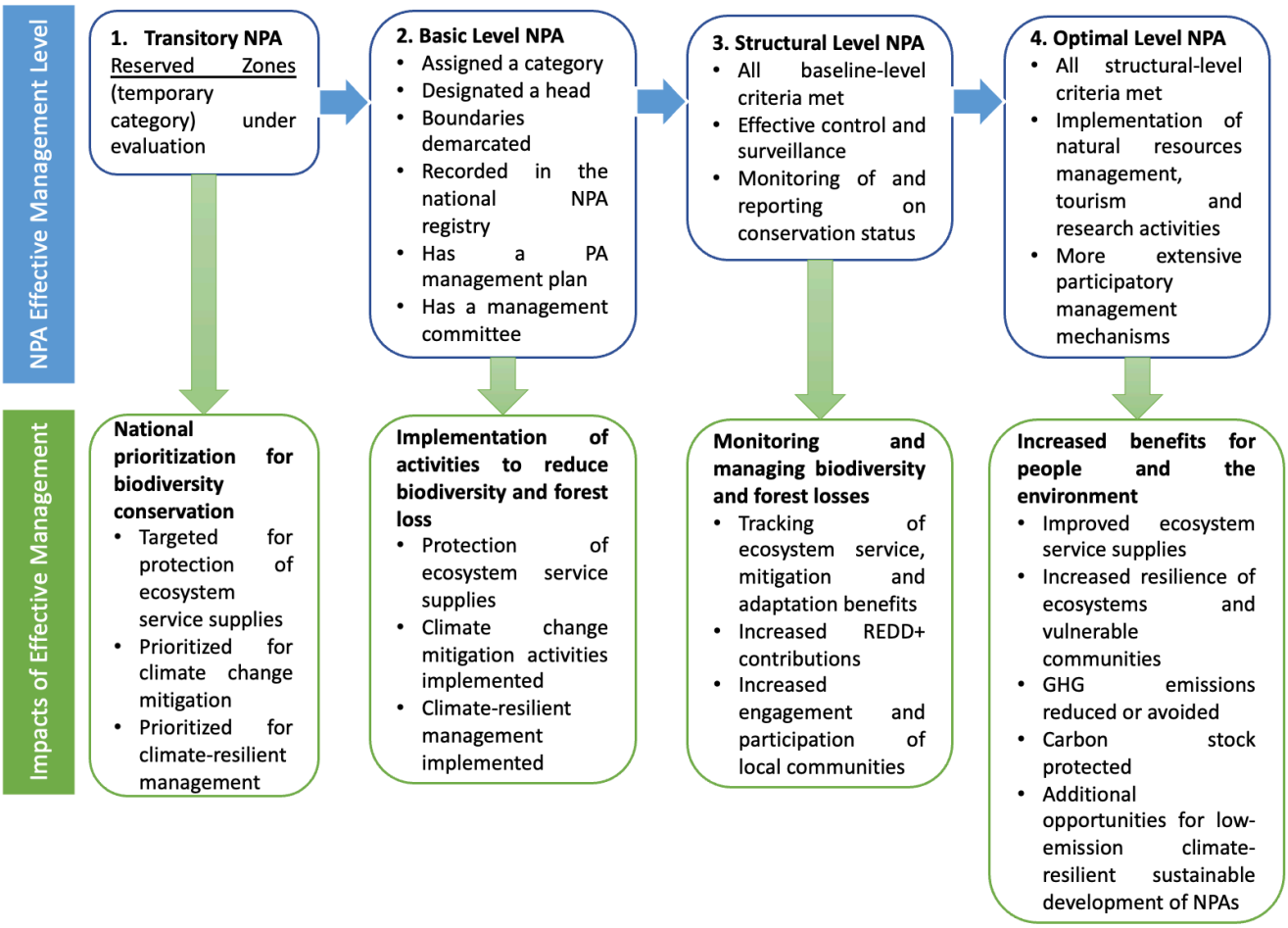

Figure 14. The four basic levels of PA Effective Management.

72. Regarding SINAP, specific institutional needs have been identified against the Effective Management conditions. The system's shortcomings include insufficient capacities for control and surveillance of deforestation and land-use, limited effective use of climate data in decision-making, limited articulation of national-regional-local information, weak capacities to develop climate change adaptation measures and climate-responsive ecosystem management, insufficient integration of national low-carbon and climate-resilient strategies in regional land use planning instruments, the limited involvement of productive sectors in land use planning and its enforcement, and low institutional capacity to address persistent land-use and water-use conflicts.

Protected area climate finance needs

73. Low baseline investment and the lack of sustainable financing for SINAP reduces the ability of the SINAP system to achieve the conditions of Effective Management. Funding for the protected areas included within this project

have a baseline of US$ 8.2 million and require an additional US$ 7.2 million annually. This figure does not account for necessary spending to address direct climate change impacts and risks, including strengthening infrastructure, new monitoring systems, training park staff and managers, or updating management plans to respond to the specific climate risks defined for each of the project's mosaics.

74. Since 2015, WWF has been supporting the use of the Project Finance for Permanence approach in Colombia through **Heritage Colombia (HECO). HECO is a public-private partnership designed to secure financial sustainability for large-scale landscape management by blending public bilateral, multilateral, and national funding sources with private funding united around common climate-conservation goals and deployed against a shared investment plan.** Over the past five years, the HECO founding partners have designed an ambitious program to protect or restore 20 million hectares over the next 20 years. Led by the Ministry of Environment and Sustainable Development and the National Parks Agency (PNN), Heritage Colombia has received significant political support through two administrations, first under President Santos and now under President Duque.

75. The Heritage Colombia GCF project contributes to national climate mitigation and adaptation goals through the sustainable and integrated management of five mosaics (Caribbean, San Lucas, Central Andes, Orinoco Transition and Heart of the Amazon), in partnership with environmental authorities, local governments, indigenous communities, the private sector and civil society. Heritage Colombia's mosaics were selected due to their level of vulnerability for water provision and ecosystem services and for their potential reductions in greenhouse gas emissions. An example of this selection include Macarena and Chiribiquete National Parks and their connectivity corridor with the highest deforestation rates and Sierra Nevada de Santa Marta National Park and its corridor to the Perija Regional Park with the highest climate change vulnerabilities (see Annex 2).

76. The five mosaics cover an area of 6.6 million ha, representing more than 5.8% of Colombia's territory. They include 5,474,119 hectares of protected areas (already under or designated to be included in the system of national, sub-national, and local protected areas) and productive adjacent lands under other forms of tenure. Managed together as an integrated mosaic, the Colombian government and its partners will secure in perpetuity signficant stocks of carbon, reductions in greenhouse gas emmsissions from land use change, water provision and regulation, improved local food security, and reduced impacts and future risks of climate-related disasters such as droughts, floods and landslides.

77. Beyond these impacts, this GCF project will catalyze the Effective Management of an additional 2.3 million hectares, including 1.6 million hectares in PAs and .7 million hectares in the broader mosaic. The GCF project's partners will achieve these expanded impacts by bringing protected area and locally managed lands into the Effective Management Framework through the PFP architecture supported by the GCF, without additional GCF resources. In fact, the effort will draw in an additional US$ 57 million in climate and conservation finance to the mosaics. Including the leverage from the GCF project, this integrated effort will ultimately yield 8.9 million hectares towards the Government of Colombia's 20 million hectare Herencia Colombia goal, representing 45% of the total. The HECO PFP is targeted to close in 2022.

78. Outside of PAs, project interventions in the 5 mosaics aim at improving Effective Management of resilient landscapes, enhancing local governance and territorial planning, generating climate information and monitoring systems to support decision making processes, and restoration and rehabilitation to improve water supply and regulation and reduce risks of flooding and landslides (see Table 5 for more information on the specific land management activities proposed for each mosaic, based on their unique climate and socio-economic context; and B.3 for more information on the specific land management activities proposed for each mosaic, based on their unique climate and socio-economic context, and full detail on proposed restoration, rehabilitation, and on-farm interventions for ecosystem-based adaptation and improved adaptive capacity). As explained in Annex 8 (Gender Analysis and Action Plan), the gender approach has been mainstreamed into the project strategies and governance structures to guarantee effective participation of both men and women, equitable access to the benefits, avoid potential negative impacts of project activities on women population, and safeguard women rights.

Table 5. Climatic hazards, impacts, vulnerabilities, proposed activities and resulting benefits per target mosaic.

Mosaic	Hazards	Impacts	Socioeconomic Vulnerabilities	Main project land use management activities	Adaptation and Mitigation Benefits
Orinoco Transition	• Significant increase in median and maximum temperature, and decline in precipitation between 1980 and 2010[59] • Increase in frequency/severity of drought since 1990[60] • 88,918 ha at risk of landslide • increased drought risk due to increasing temperatures, extreme heat, and dry days. • Further projected decline in precipitation of -3.6% to -16% (-19% in the northern part of Chingaza NP) expected from 2011- 2040. • Increase in number of extreme rainfall days leading to higher flood risk[61] • Increase in frequency of extreme climate events since 1970[62]	• Expected decline of 15% in water availability within Chingaza NP between 2011 and 2040[63] • Increased risk of water deficit during periods of drought for municipalities dependent on the Guatiquia river basin[64] and water shortages and worsening water quality expected for San Juanito and El Calvario • Fómeque, Guasca, la Calera, and Guayabetal municipalities expected to have a substantial change in area suitable for maize cultivation [65]	• Medium-to-high monetary and multidimensional poverty conditions; • Unfulfilled basic needs due to limited access to public services and infrastructure; • gender inequality in rural households affects women's opportunities to overcome poverty.	• Silvopastoral systems and improved pasture management; • agroecological and agroforestry approaches tailored to prioritized climate change impacts and risks, including rainwater harvesting and irrigation for home vegetable gardens, beans, composting systems, organic fertilizers, water storage; • Productive community forest nurseries supporting restoration supported by a women's organization. • Reforestation efforts and associated ecosystem services benefits (soil retention, etc.) • Pilot sustainable productive projects (pork, poultry, horticulture sectors) to reduce contamination of the water resource, establishing efficient water use practices • Community tourism projects led by vulnerable populations, including the youth and women.	• Reduced soil erosion and landslide risk, improved water retention; reduced flooding; • Reduced direct anthropogenic impacts on water supply systems, water quality, will reduce stress on overall water supplies; • Additional source of income to diversify livelihoods will increase adaptive capacity; • increased crop productivity and carbon sequestration. • Enhanced household resilience associated with water provision and food security.
Heart of the Amazon	• Increase in frequency and length of dry spells • Increased occurrence/severity of drought since 1990[66] • 4,287 ha at risk of landslide • 365,556 ha at risk of flooding, with prolonged flooding periods in the past few years in Serranía de la Lindosa-Angosturas communities and those along the Guayabero and Guaviare rivers • Significant increase in precipitation and median and maximum temperatures from 1980 to 2010 across the mosaic[67] • increasing aridity expected for the Chiribiquete corridor • Increase in number of extreme rainfall days leading to higher flood risk[68] • Increase in frequency of extreme climate events since 1970[69]	• Rainfall decreases expected to affect crops in the Chiribiquete corridor[70] • Water scarcity during dry spells leading to cattle mortality and reduced production for farmers in the Macarena Chiribiquete corridor and impacts on tourism in the Serrania de La Lindosa-Angosturas II National Buffer Forest Preserve • Projected high or very high reductions in area suitable for maize cultivation in five municipalities and medium change in six municipalities[71]	• Medium-to-high monetary and multidimensional poverty conditions; • Unfulfilled basic needs due to limited access to public services and infrastructure; low GDP participation (6.7%) in the agriculture sector, due to low incomes; • Gender inequality in rural households affects women's opportunities to overcome poverty. Indigenous communities heavily depend of nature-based livelihoods.	• Conservation contracts at local level to transition to climate-resilient silvopastoral systems, rehabilitate degraded lands and associated protected areas, and resolve conflicts; • Improved agricultural and production practices for landscape rehabilitation and connectivity targeting degraded lands; • Sustainable cattle production to protect and reforest water sources through silvopastoralism; • Forest ecosystem restoration, supported by community nurseries • Strengthen initiatives for avitourism routes with local guides and the youth • Reforestation in PAs with native tree species, including through conservation agreements, community nurseries, and maintenance and monitoring of reintroduced species. • Rehabilitation in PAs through climate-resilient productive systems, including silvopastoral and agroecological approaches.	• Improved soil retention, water source protection and quality improvements to increase water availability • Income and livelihood diversity for increased adaptative capacity • Reduce fire risk and frequencies • Reduce emissions by deforestation • Increase carbon sequestration. • Development of resilient territories and production systems to improve integrated management of water resources, reduce landslide and flooding risks for communities, and reduce impacts of heat and rainfall extremes on crop productivity. • Enhance community resilience associated with water scarcity and food security.

[59] Annex 2, p. 88
[60] Analysis for this proposal, Annex 2, p. 13.
[61] Annex 2, p. 15
[62] https://www.desinventar.net/DesInventar/
[63] IDEAM, 2015. Third National Communication on Climate Change.
[64] Annex 2, p. 90
[65] Annex 2, p.93
[66] Annex 2, p. 13
[67] Annex 2, p. 82
[68] Annex 2, p. 15
[69] https://www.desinventar.net/DesInventar/
[70] Annex 2, p. 84
[71] Annex 2, p. 84

Caribbean	• Increasing rainfall variability and intensity, leading to more frequent dry spells and extreme rainfall events • 282472.9 ha at risk of landslides[72] • 15,226.24 ha at risk of flooding[73] • Significant rise in temperature over past 30 years both in median and maximum temperature • Projected decline of -24 to -45% in precipitation for 2011-2040 [74] • Increase in number of extreme rainfall days leading to higher flood risk[75] • Increase in frequency of extreme climate events since 1970[76]	• Increased risk of water shortages, resulting in impacts to livestock and crops [77] • More frequent wildfires leading to destruction of homes and crops[78] • 87.3% of the area around the CGSM will shift from a semi-arid to an arid condition.[79] changing the area of optimal agro-climatic zones for rice, maize and coffee.	• Conflicts over land-use and environmental degradation; medium-to-high monetary and multidimensional poverty conditions (6.3% contribution to GDP); • unfulfilled basic needs due to limited access to public services and infrastructure; intense agricultural activity strongly dependent on rainwater. • Gender inequality in rural and indigenous households affects women's opportunities to overcome poverty.	• Establish silvopastoral systems, agroforestry systems and living fences in coffee, cassava, corn, fruit trees, as sustainable and resilient production plans; management tools like windshields, living fences in cassava, rice, palm and cattle plantations, • Participatory forest restoration through community nurseries • conservation and use agreements to facilitate conservation agreements with the indigenous peoples of the SNSM, rural communities, productive sectors, and competent authorities aimed at reducing pressures on and generating opportunities for conservation. • Reforestation in PAs with native tree species, including through conservation agreements, community nurseries, and maintenance and monitoring of reintroduced species. • Rehabilitation in PAs through climate-resilient productive systems, including silvopastoral and agroecological approaches.	• Sustainability of life and Pproduction that are alsoareis also resilient to increasingly frequent and intense drought and flooding, declining seasonal water availability, and increasing variability. • Reduced soil erosion and landslide risk, improved water retention; • Increase productivity and increase below and above ground carbon stocks • Development of resilient territories and production systems to improve integrated management of water resources, reduce landslide and flooding risks for communities, and reduce impacts of heat and rainfall extremes on crop productivity and communities' everyday provision.	
Central Andes	• Significant rise in median and maximum temperatures between 1980 and 2010[80] • Projected increase of 5-25% in precipitation across the entire mosaic, with a projected rise as high as 36.5% in one of the target basins[81] • High landslide risk (69926 ha susceptible), especially with increasing rainfall intensity, increased flood risk • Increased occurrence/severity of drought since 1990[82] • Remaining glaciers expected to melt by end of century[83] • Increase in number of extreme rainfall days leading to higher flood risk[84] • Increase in frequency of extreme climate events since 1970[85] •	• 65% reduction of water supply during dry periods due to ENSO variability, worsened by increasing temperatures and changing precip patterns[86] • Increased impacts from floods, landslides and erosion due to increasing precipitation and melting glaciers[87] • Expected declines as high as 25% under high emissions scenarios for dairy and cattle production. • Large expected change in agro-climatic zone area optimal for maize cultivation • Upward shift of ecosystem boundaries expected[88]	• Relatively lower, but variable multi-dimensional poverty index, affecting between 11.5-17% of the rural population; agriculture is the main productive sector (21% GDP contribution), with populations largely dependent on different crops grown at different elevations, including cattle and dairy production	• Implement conservation contracts at local level to transition to climate-resilient of 5-25%silvopastoral systems, rehabilitate degraded lands and associated protected areas, and resolve conflicts; • Restoration of forest ecosystems in degraded areas with the participation of local communities with community forest nurseries with participation of the youth • Reforestation in PAs with native tree species, including through conservation agreements, community nurseries, and maintenance and monitoring of reintroduced species. • Rehabilitation in PAs through climate-resilient productive systems, including silvopastoral and agroecological approaches.	• Production that is also resilient to increasingly frequent and intense drought and flooding, declining seasonal water availability, and increasing variability. • Reduced soil erosion and landslide risk, improved water retention; • Reduced direct anthropogenic impacts on water supply systems, will reduce stress on overall water supplies • Increase carbon stocks • Development of resilient territories and production systems to improve integrated management of water resources, reduce landslide and flooding risks for communities, and reduce impacts of heat and rainfall extremes on crop productivity and water	

[72] Desinventar database https://db.desinventar.org/
[73] Desinventar database https://db.desinventar.org/
[74] IDEAM, 2017.
[75] Annex 2, p. 15
[76] https://www.desinventar.net/DesInventar/
[77] Annex 2, Table 12
[78] Annex 2, p.70
[79] Annex 2, p.69
[80] IDEAM, 2017
[81] Multi-model assemblage, Annex 2, p.75
[82] SPEI
[83] Annex 2, p. 75
[84] Annex 2, p. 15
[85] https://www.desinventar.net/DesInventar/
[86] IDEAM, 2017.
[87] Annex 2, p. 75
[88] Annex 2, p. 75

					provision for everyday use at community level..
San Lucas	• 1.0°C temperature increase is expected for the departments where San Lucas is located (Bolívar and Antioquia) for the period 2011-2040[89] • Increase in frequency of extreme climate events since 1970[90] •	• 275,331.81 ha at risk of landslides[91] • 1,929.24 ha at risk of flooding[92]	• Medium-to-high monetary and multidimensional poverty conditions (65-90% of people affected); • unfulfilled basic needs due to limited access to public services and infrastructure; agriculture sector participation of 15.3%. • Gender inequality in rural households affects women's opportunities to overcome poverty.	• Regional and local agreements with communities through the PA establishment process to improve land management toward sustainable activities aligned with PA designation and reducing deforestation, erosion, and other impacts of activities like mining and cattle ranching	• Headwaters protection, regulating and providing water for downstream communities, reducing flooding and landslide risks, and sequestering carbon stocks • Avoid emissions by deforestation

Related projects/interventions

79. While the proposed project has been expressly designed to contribute to filling the critical financing gap by using climate finance to specifically address deforestation and drivers of land use change of protected areas, there is a known lack of coordination and knowledge exchange among the global, regional and local actors with parallel initiatives addressing drivers outside of protected areas and further downstream to the project's target mosaics. This has led to the inefficient use of funds, duplication of efforts, and a lack of coalition building. In order to address this barrier to scale financing in the Amazon, WWF in partnership with the IDB Lab, CSD/CCS, the Paulson Institute will design, develop and launch a digital platform – the "Leticia Platform" - aimed to foster the financing of conservation and sustainable investments in the Amazon and those that would contribute to the Government's 20-year "HECO vision". This GCF project has been developed to capitalize on synergies with the *Technology and innovation to close the conservation finance gap in the Amazon Basin — 2021-2023* (aka "The Leticia Platform") to improve coordination across investments addressing drivers of deforestation, included as Activity 3.2.4.

80. There are also several GEF investments within the project areas: *GEF para la consolidación del SINAP* (2020 – 2022), of which WWF Colombia is an Executing Agency, and *Conservation and Sustainable Use of the Cienaga Grande de Santa Marta GEF-7* (2020 – 2025), whose Executing Agencies include Conservation International – Colombia (CI-Colombia) and Ministry of Environment and Sustainable Development (MADS). WWF Colombia's role as EE with that of CI-Colombia's - a key stakeholder in the national HECO initiative - and MADS's, will allow for synergistic planning with this proposed GCF project to maximize coordination and sharing of lessons learned.

81. As regards the GCF's portfolio within Colombia, while WWF commits to supporting the NDA's country programming coordination, the intended coordination with this proposed project, if any, is described below:

i. FP056 UNDP's *Scaling up climate resilient water management practices for vulnerable communities in La Mojana* (2018 – 2026). Although the project focuses on water, since there is no geographic overlap between the two projects coordination will be limited to informal information sharing mostly through the NDA.
ii. Fundo Accion's Readiness project *Strengthening capabilities of indigenous peoples on climate finance in Colombia* (2019 for 12 months). Under Activity 1.3.1, Indigenous People and Local Community (IPLC) groups are intended beneficiaries of capacity building to partner with government authorities to apply for funding under the SGR program. As MinAmbiente sits on the Steering Committee of this project and HECO, coordination should occur through the Steering Committee.
iii. FP134 FAO's *Colombia REDD+ Results-based Payments for results period 2015-2016*. While the RBPs have yet to identify interventions for reinvestment, WWF Colombia has notified FAO of their availability to coordinate to avoid duplication and ensure coherence within the Heart of the Amazon.
iv. FP173 IDB's *The Amazon Bioeconomy Fund: Unlocking private capital by valuing bioeconomy products and services with climate mitigation and adaptation results in the Amazon*. This proposed project has inlcuded

[89] IDEAM, 2017.
[90] https://www.desinventar.net/DesInventar/
[91] Desinventar database https://db.desinventar.org/
[92] Desinventar database https://db.desinventar.org/

Activity 3.2.3 to directly coordinate with the Amazon Bioeconomy Fund to augment available information on productive sectors, financial flows and investable biobusinesses that support climate and nature positive outcomes in HECO's mosaics.

v. FP182 CAF's *Climate-smart initiatives for climate change adaptation and sustainability in prioritized agricultural production systems in Colombia (CSICAP)*. As the projects seeks to modernize the agricultural extension system, there is strong synergies with HECO's rehabilitation interventions. Collaboration with CAF's EE, the Ministry of Agriculture and Rural Development (MADR) will be expanded upon from their defined engagement as a national level stakeholder.

82. Other related projects and interventions including complementarities and coherence are summarized in Annex 2: Feasibility Study (Related project and interventions), including descriptions of initiatives providing parallel and co-finance.

B.2 (a). Theory of change narrative and diagram (max. 1500 words, approximately 3 pages plus diagram)

83. As highlighted in Section B.1, Colombia's landscapes and people are facing a period of unprecedented ecological and climate-related pressures as the country undertakes an ambitious transformation – including massive landscape reforestation and restoration projects coupled with efforts to reach net-zero deforestation by 2030 – aimed at meeting it's Nationally Determined Contribution (NDC), among the most ambitious in Latin America.[93] Compounding these trends, as a result of the COVID-19 pandemic Colombia's GDP fell by 6.8% in 2020, the deepest annual reduction ever recorded.

84. To support this transformation, a new national policy focused on the consolidation of the SINAP 2020-2030 was approved by the National Protected Areas Commission (CONAP) in May 2021 and officially launched by the president in October 2021. The new policy has five goals: (1) increased representation; (2) improved participatory management; (3) increased connectivity; (4) equitable sharing of conservation benefits; and (5) increased financial sustainability for SINAP. All are hallmarks of the Effective Management approach.

85. Although the Colombian government has long demonstrated strong commitment to climate action and conservation goals by – among other measures – increasing PA coverage and representation in recent years, the system still faces a significant financial gap to achieve the ambitions of the NDC and SINAP 2030 policy goals. Without the proposed project, Colombia will remain trapped in the current paradigm, where low baseline financial flows into protected areas restrict the Effective Management of SINAP. The current paradigm limits the integration of climate change into management practices and hinders the surveillance and avoidance of illegal land uses, which continue to advance towards protected areas. The current National Royalties System (SGR), a critical source for revenue, faces a number of challenges (described in FP Section B.2A) that have ultimately led to very low re-investment back into SINAP, including limited capacity in territorial entities responsible for royalties' management and project funding (see Annex 2a, Financial Mechanism Feasibility Study).

86. To reorient land and water management in the mosaics towards a low carbon, climate resilient path, Colombia is transitioning to an innovative management paradigm and financing model, one in which production and protection are merged to conserve these strategic ecosystems and incentivize agricultural production with low impacts on forests, aligned with zero deforestation models. Heritage Colombia will shift the dependence from international and volatile or incomplete donor funding towards sustainable, domestic non-donor sources to fund long-term conservation and management needs of protected areas and their buffer zones using the Project Finance for Permanence (PFP) approach.

87. As detailed in WWF's recently released guide that describes the core elements and development process of a PFP initiative[94] (funded with support from the GEF, World Bank and other initiatives), the PFP approach was originally conceived in 2011 by a group of conservationists, former bankers, and management consultants who imported ideas from the mainstream financial sector to create a new model to protect and finance large ecosystems. The PFP approach draws on private finance practices used to organize and fund complex and well-defined projects. While PFPs are designed to blend and leverage financing from donors and increase the level of funding commitments from the

[93] https://www.wri.org/insights/colombia-shows-leadership-race-against-climate-change
[94] https://thedocs.worldbank.org/en/doc/e250338394b2f74c591c629ad44cc202-0370052021/original/PFP-ASL-WWF-REPORT-2021-Dec-7.pdf

government of the country in which the PFP is occurring, it leverages much more than funding. At an upstream level the PFP approach is a powerful means to catalyze governments to commit to effective policies for long-term climate-responsive planning and conservation. It generates agreement between national governments and a variety of private and public donors and partner institutions on specific and high priority activities and outcomes to meet national commitments. These activities must be fully funded during implementation period and the costs to maintain impacts achieved are required to be covered with sustainable financing mechanisms thereafter. To achieve the latter, after the project implementation period ends the PFP has consolidated a portfolio of long-term sustainable financing mechanisms that enable access to or channel financial resources from a diverse set of public and private sources into the management of a high-value natural asset and public good. In doing so it creates the institutions and builds capacity needed to permanently protect high-value natural assets with climate benefits. Therefore, a PFP deal presents an extraordinary opportunity to achieve greater climate and conservation outcomes than could have been achieved through piecemeal projects.

88. Colombia's PFP was designed to respond to country-specific barriers. Some of the detailed barriers are as follows, including a prioritization score of the barrier per each mosaic (1 = lowest priority and 5 = highest priority):

89. **Lack of mechanisms for site-specific monitoring and generation of datasets on climate, carbon, hydrology, ecosystem services, and land use impacts.** Both generation of and access to specific information on ecosystems and the services they provide — including how they contribute to reduce hazard risks for communities as ecosystem-based adaptation (EBA) solutions — is still dispersed and in some instances out of reach for users at relevant sub-national and local scales, limiting their use for opportune decision-making. This is primarily attributed to the lack of rigid monitoring systems within national and regional environmental authorities for on-site use to generate useable data (Caribe = 5, San Lucas = 5, Central Andes = 3, Orinoco Transition = 3, Heart of Amazon = 5).

90. **Limited capacity for the uptake and effective use of data to inform decision-making by SINAP, regional environmental authorities, municipal governments, and communities.** Currently, research institutes and environmental entities generate relevant data, information and reports and make them available through information platforms. However, it is necessary to generate capacities and mechanisms that make use of and articulate such information at the local and regional levels and guide more comprehensive analysis, decision making and implementation processes more effectively tailored to the design and implementation of local mitigation and adaptive responses to climate hazards (Caribe = 5, San Lucas = 5, Central Andes = 3, Orinoco Transition = 3, Heart of Amazon = 5).

91. **Limited integration of national low-carbon, climate-resilient strategies into regional land use planning instruments due to lack of integrated interinstitutional management and coordination.** Colombia has developed a robust structure of institutional articulation targeted to promote a more climate-resilient development model, including climate regulations such as the Climate Change National Policy and Climate Change Law. However, the functioning of this structure at the territorial level depends on specific enabling measures that harmonize and articulate the different instruments of public policy and planning, including those resulting for the peace agreement such as the Development Programs with a Territorial Approach (PDETs, in Spanish). Management planning instruments at the local level are limited, particularly for protected areas. Therefore, empowering and increasing coordination of relevant authorities (e.g., ministries, regional environmental agencies, National Parks, municipalities, watershed councils, etc.), based on regularly updated, localized climate information is essential to promote more integrated management of regions and landscapes and increase management effectiveness, including maintaining and enhancing the delivery of critical ecosystem services (Caribe = 5, San Lucas = 5, Central Andes = 5, Orinoco Transition = 5, Heart of Amazon = 5).

92. **Failures in coordination to control human threats to protected areas that diminish their capacity for carbon capture and storage, and water provision and regulation.** Lack, or limited articulation and collaboration between the national system of protected areas (SINAP), the communities around these with unmet basic needs, the pressures from illegal actors, and some economic sectors – most remarkably agriculture and infrastructure – constitutes a barrier to achieve mitigation goals and adaptation to the effects of climate change. The conservation goals of protected areas are often seen as opposite to the interest of local farmers who partially depend on resources provided by the protected areas, or by economic sectors that seek to expand their intervention within the limits of these areas. This makes it necessary to strengthen the capacity of the protected areas to engage different stakeholders and resolve

contentious issues that may hinder the prevention and control of human disturbance to protected ecosystems (Caribe = 4, San Lucas = 5, Central Andes = 3, Orinoco Transition = 3, Heart of Amazon = 5).

93. **Limited capacity of PA staff to exercise control and surveillance of the drivers of deforestation and unsustainable water exploitation.** Deforestation and land degradation in Colombia is a major environmental issue that currently affects SINAP. Although the Government of Colombia has increased its capacity to combat the current deforestation drivers (mainly land grabbing and the expansion of illicit crops), it is still necessary to exert more robust control and improve surveillance systems. Existing human capacities and technological resources to manage the threats - including those associated with peacebuilding - within the protected areas and to work with and engage stakeholders in the buffer zones to find solutions and prevent further loss of forest cover and the unsustainable use of water sources are insufficient (Caribe = 5, San Lucas = 5, Central Andes = 3, Orinoco Transition = 3, Heart of Amazon = 5).

94. **Lack of sustainable financing for SINAP to ensure the effective management needed to maximize their climate mitigation and adaptation impacts.** Protected areas effectiveness evaluations results of some subsystems of SINAP showed the need for improvement in the management effectiveness index, including the provision of critical data, among other aspects, about the protected areas' financial sustainability (Caribe = 5, San Lucas = 5, Central Andes = 5, Orinoco Transition = 5, Heart of Amazon = 5).

95. GCF's contribution to HECO is crucial to the success of this PFP and to ensuring that the mosaic of public and private land uses targeted in this FP can realize this once-in-a-generation 'peace dividend' and develop the capacity to safeguard Colombia's natural capital and maximize resilience to the impacts of a changing climate.

ToC summary

96. To overcome the above-mentioned barriers, this project proposes adopting an integrated landscape management approach – operating within the overall financial framework of SINAP 2030 goals, the PFP model and HECO vision – that will generate multiple long-term benefits for these mosaics according to the following Goal Statement: **IF**: (i) the governance of key targeted landscapes is strengthened financially and technically for long-term sustainability; (ii) climate information is accessible and integrated into territorial planning; and (iii) the existing SINAP in targeted landscapes is more effectively managed to undertake priority mitigation and adaptation measures in surrounding and downstream communities, including restoration and rehabilitation in priority corridors; **THEN** a new paradigm of sustainable landscapes that combine climate-resilient management practices in and adjacent to protected areas will be realized, one that sequesters and stores carbon and generates water regulation and provisioning in a changing climate, while improving the resilience of local livelihoods; **BECAUSE** deforestation, forest degradation, land use changes and other threats to the paramos, montane, lowland, and gallery forests in the targeted landscapes will be mitigated, thereby lowering GHG emissions and sustaining or increasing the climate resiliency benefits generated through ecosystem integrity and functionality.

97. Implementation of actions proposed follows the main assumption that local communities, productive sectors, and other stakeholders are willing to and will contribute to reducing pressures on PAs and surrounding landscapes if the enabling conditions to address basic needs, climate vulnerabilities, and ongoing deforestation and land degradation are improved. The project also assumes that the impacts of climate change do not negatively impact the resilience of ecosystem services in the long term if the landscapes that provide them are managed and protected effectively. The use of existing and new data and information (including climate information) generated through monitoring systems for effective management hinges on the assumption that environmental authorities and stakeholders will readily transition to a culture of data-driven and evidence-based decision-making. Maintained effective management of PAs involving a landscape approach that explicitly responds to the increasing hazards and impacts of climate change and maintains ecosystem connectivity is based on the assumptions that the capacities of PA staff will be retained and enhanced, and that sustainable financing of SINAP will be maintained in the long term. This will be supported by the uptake of climate-resilient ecosystem-based livelihoods and knowledge that are sufficient to reduce the impacts of degradative practices on PAs and the landscapes where they are located. In this regard, by strengthening local governance and stakeholders' participation and improving local livelihoods, the project will reduce the pressures on protected areas, ecosystems, and ecosystem services and reduce human populations' vulnerability to water scarcity, flooding, landslides and other

increasing impacts, risks, and hazards of climate change, which which have stronger and harder impacts on women and marginalized populations.

Project approach across mosaics

98. As described in further detail in Sections B.1 and 3, and the analysis in Annex 2 (and 2b), the mosaics and implementation areas were chosen to address a balance of deforestation drivers, climate vulnerabilities, and opportunities for restoration and rehabilitation to improve ecosystem connectivity and maintain or enhance delivery of critical water provision and regulation ecosystem services. While there are unique conditions in each mosaic — varying drivers of deforestation depending on the sector, ecoregions and historical (and thus future) climate threats, socioeconomic vulnerabilities — there are also clear similarities across them that warrant a unified approach with protected areas and ecosystems and their services at the core. The interventions of each mosaic therefore represent a balance of activities specified to the conditions of each area within the larger shared framework across all of them to improve governance, address degradation and deforestation, create carbon removals, improve water regulation and provision functions of ecosystems to also address hazards like drought, extreme rainfall, flooding, and landslides through restoration and rehabilitation, and direct on-farm interventions to improve adaptive capacity (see Table 5, Section B.1.). For example, all mosaics are targeted for silvopastoral approaches, restoration and rehabilitation within and outside protected areas, conservation agreements with local communities, participatory reforestation, ecotourism initiatives, and on-farm adaptive capacity building through rainwater harvesting, vegetable gardens and other approaches, in many cases specifically targeting women and marginalized groups to address imbalances in vulnerabilities. These interventions vary slightly, however, depending on the relevant local sector and based on expressed priorities during community consultations: for example, sustainable cattle production is a critical target in the Heart of the Amazon given its impact as a driver of deforestation, where similar sustainable production approaches and interinstitutional governance target the horticulture, pork, and poultry sectors relevant in the Orinoco Transition. The exception to this is San Lucas, which is targeted for stakeholder-based protected area designation and gazettement interventions, including trainings for communities in sustainable land-use management in line with the new designation, but will not receive the full diversity of interventions proposed for the remaining mosaics (due to the primary focus on addressing deforestation and carbon sequestration, with associated water regulation and provision benefits). The Caribbean mosaic is targeted for similar protected area gazettement and designation but will receive the full suite of interventions as the Santa Marta protected area is part of the larger mosaic and represents a critical headwaters for surrounding communities and downstream populations.

99. The theory of change diagram is presented in Figure 16 below.

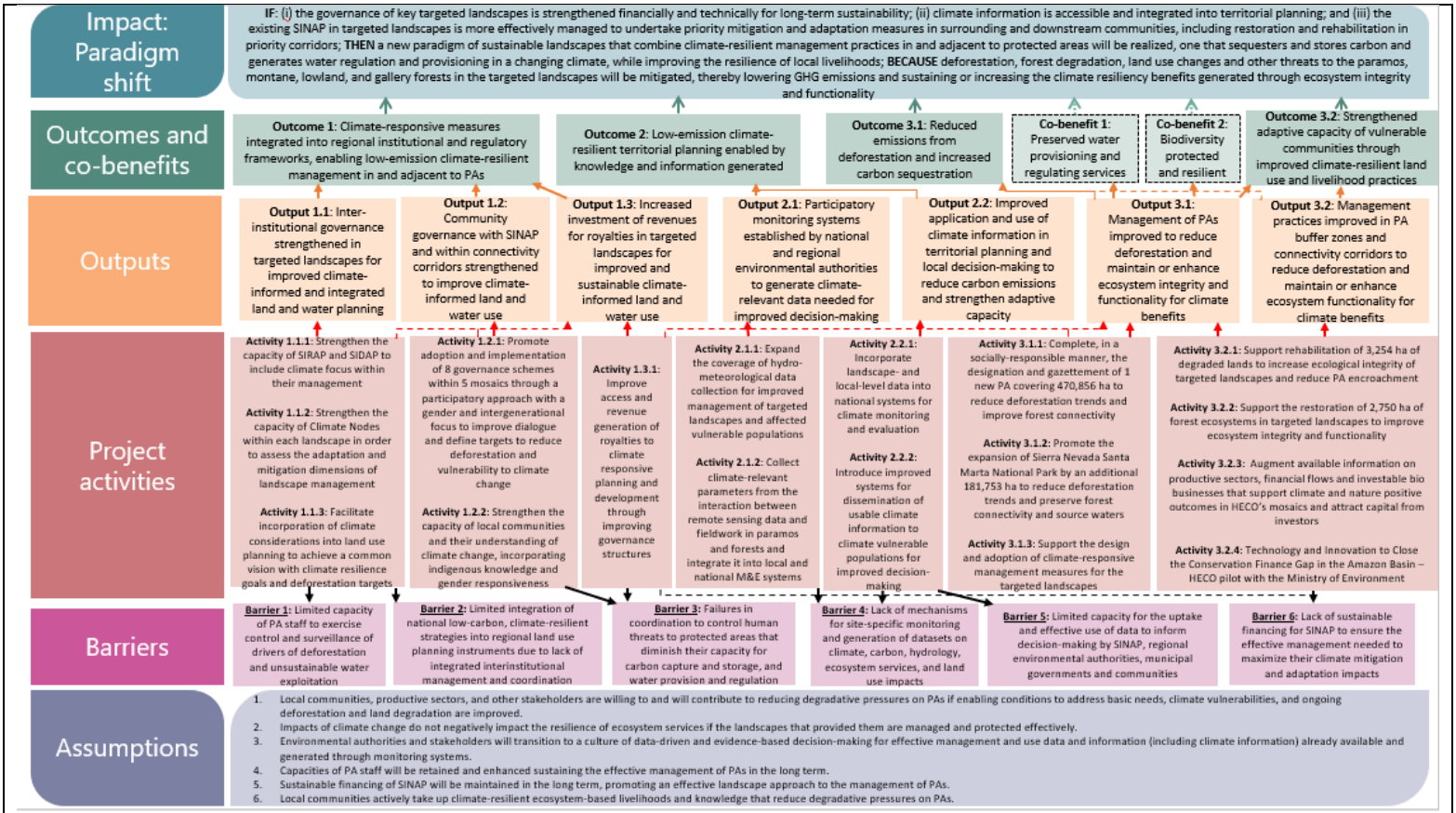

Figure 16. Project Theory of Change diagram.

B.2 (b). Outcome mapping to GCF results areas and co-benefit categorization

100. As presented in the ToC diagram above, the proposed project's goal will be realized via four outcomes, each with intermediate outcomes beneath them which will be achieved through the project's activity structure.

- Outcome 1: Climate-responsive measures integrated into regional institutional and regulatory frameworks, enabling low-emission climate-resilient management in and adjacent to protected areas. The contributing *intermediate outcome* is: Governance structures for climate-responsive planning and development improved and implemented.
- Outcome 2: Low-emission climate-resilient territorial planning enabled by knowledge and information generated. The contributing *intermediate outcome* is: Participatory monitoring systems generate climate information.
- Outcome 3.1: Reduced emissions from deforestation and increased carbon sequestration.
- Outcome 3.2: Strengthened adaptive capacity of vulnerable communities through improved climate-resilient land use and livelihood practices. The contributing *intermediate outcomes*: Resilient ecosystems and ecosystem service supplies; and Protected area and forest management improved and restoration implemented. Outcomes 3.1 and 3.2 are also contributed to by intermediate outcomes 1 and 2.

Outcome number	**GCF Mitigation Results Area (MRA 1-4)**				**GCF Adaptation Results Area (ARA 1-4)**			
	MRA 1 Energy generation and access	**MRA 2** Low-emission transport	**MRA 3** Building, citiies, industries, appliances	**MRA 4** Forestry and land use	**ARA 1** Most vulnerable people and communities	**ARA 2** Health, well-being, food and water security	**ARA 3** Infrastructure and built environment	**ARA 4** Ecosystems and ecosystem services
Outcome 1	☐	☐	☐	☒	☐	☐	☐	☒
Outcome 2	☐	☐	☐	☒	☐	☐	☐	☒
Outcome 3.1	☐	☐	☐	☒	☐	☐	☐	☐

Outcome 3.2	☐	☐	☐	☐	☒	☐	☐	☒

101. The two key co-benefits identified for tracking within the project, are both ecosystem service-related. Both co-benefits are contributed to by intermediate outcome 3.1: Ecosystem service supplies enhanced. Additional detail on these co-benefits is provided in Section D.3.

- Co-benefit 1: Preserved water provisioning and regulating services.
- Co-benefit 2: Strengthened biodiversity.

Co-benefit number	Co-benefit					
	Environmental	Social	Economic	Gender	Adaptation	Mitigation
Co-benefit 1	☒	☐	☐	☐	☐	☐
Co-benefit 2	☒	☐	☐	☐	☐	☐

B.3. Project/programme description (max. 2500 words, approximately 5 pages)

102. The project is a key part of **Heritage Colombia (HECO**), a broader, long-term national umbrella program with a goal of securing more than 20 million hectares over the next 20 years through increasing protected coverage in key vulnerable forested areas and improving effective low-emission management strategies and governance of Colombia's National System of Protected Areas as spaces for inclusion and peacebuilding, to create opportunities for human well-being and sustainable development.

103. The project seeks to reduce deforestation, forest degradation, land use changes, and other threats to the paramos, montane, lowland, and gallery forests within and adjacent to Protected Areas in the targeted geographies, thereby lowering GHG emissions and sustaining or increasing the climate resiliency benefits generated through ecosystems integrity and functionality; and to improve adaptive capacity for thousands of farmers to increasing climate variability and extremes. Specifically aligned with the GCF integrated results management framework (IRMF), the project will:

- Improve and implement governance structures for climate-responsive planning and development;
- Support participatory monitoring systems to generate climate information used for improved decision-making in territorial planning and increased adaptive capacity for rural farmers;
- Improve land and forest management and implement restoration and rehabilitation to reduce carbon emissions and exposure of vulnerable communities to worsening climate hazards: drought and shifting water availability, landslides, and flooding
- directly increase adaptive capacity for farming households in and around protected areas to address these hazards affecting household food security and incomes, through water storage and management systems, soil improvements, and farmer training schools.

104. Ecosystem-based Adaptation (EbA) and on-farm adaptation interventions will be implemented across the project's five mosaics to address climate change impacts under a RCP 4.5 climate scenario. The proposed EbA approach aims to reduce the vulnerability of local communities to climate change by reducing sensitivity and increasing adaptive capacity. EbA actions will involve the enhanced protection and restoration of healthy ecosystems, as well as climate-responsive management, in existing protected areas and adjacent lands (buffer zones and connectivity corridors), complemented by improved land management with farming communities, with the aim of reducing carbon emissions and enhancing climate adaptation services. In addition, the proposal will directly reduce climate risk and vulnerability for communities by implementing on-farm adaptation options to increase the adaptive capacity of farming households in and around protected areas for resilient livelihoods. The main climate impacts under RCP 4.5 that will be addressed through EbA include increased drought and aridity due to increasing temperatures and dry days, and consequently decreased water availability (i.e., increased water stress), as well as increased flooding and landslide risk due to increased rainfall intensity and discharge and increasing erosion/sedimentation.

105. The aim is to enhance and safeguard the critical services ecosystems provide that support adaptation in surrounding and downstream communities, including through restoration and rehabilitation in priority corridors to increase water supply and reduce landslide and flood risks. Adaptation services that support viable livestock production, for example, include soil regulation services underpinning stable plant production, microclimate regulation for welfare

of livestock and the provision of water for livestock and people[95]. Therefore, climate impacts will also be addressed indirectly by targeting key drivers, like unsustainable productive practices, causing deforestation and thus loss of critical climate adaptation services. Protecting, restoring and sustainably managing ecosystems under an EbA approach will not only reduce the vulnerability of communities to climate impacts, but it can also help enhance climate adaptation services that underpin social-ecological resilience to climate change.

106. The expansion of the protected area network will target the protection of highly valuable mountainous habitats in San Lucas and Santa Marta that play a critical role in regulating and providing water for downstream communities, reducing flooding and landslide risks, and sequestering carbon stocks essential to the country's long-term emissions trajectory and climate commitments, with critical co-benefits in conserving globally unique biodiversity. Expanding protected areas and securing connectivity within the network are essential to building climate resilience, by providing larger temperature and climate gradients for species to move, reducing exposure and sensitivity, and enhancing their adaptive capacity[96]. The proposal will facilitate the completion of necessary stakeholder-based processes to designate and gazette the San Lucas Mountains protected area and expand the current boundaries of the Sierra Nevada Santa Marta (by approximately 181,753 hectares) to ensure mitigation and adaptation benefits, as well as to conserve strategic ecosystems (including protected headwaters and critical hydrological services) and cultural diversity, including Indigenous Peoples traditional management practices that conserve biodiversity. Communities are in favor of the designation of San Lucas, and similarly supportive of more stringent protected management of their critical headwaters in Santa Marta (see Annex 7 for full details of stakeholder support). For San Lucas, the project will work with communities to build capacities for sustainable land use management that align with the new protected area category.

107. Implementation of ecosystem restoration and rehabilitation within both protected areas and corridors will re-establish ecosystem connectivity and integrity lost to deforestation and land use change. A total of 8,536 hectares will be restored over ten years in eight protected areas, through 100 implementation agreements, the training of 2,286 people, the establishment of eight nurseries, and the development of a participatory monitoring and evaluation system. In addition, a total of 5,912 hectares will be rehabilitated over ten years in nine protected areas, through agroforestry, silvopasture and agroecology interventions targeting the main production systems that cause unsustainable land-use, and the overuse of soils. Rehabilitation will aim to develop climate-resilient productive systems to address impacts from increasing heat and rainfall extremes on crop productivity. Targeted ecosystems in protected areas and corridors--paramos, montane, lowland, and gallery forests--in each region (Figure 16) will be prioritized for restoration and rehabilitation to maintain and improve water availability (especially important in the Caribbean) and reduce identified downstream landslide and flooding risks (all landscapes) by enhancing water regulation and sediment retention services provided by these systems (see full analysis in B.1 and Annex 2). As described further below, the project will collaborate with communities and other stakeholders (protected area managers and staff, experts from the Regional Climate Nodes, productive sectors) to prioritize restoration and rehabilitation areas that maximize connectivity and EbA benefits (Figure 17).

108. Improved land and forest management interventions will be implemented together with farming communities vulnerable to climate change. Silvopastoral, agroforestry and agroecological systems will help reduce these communities' sensitivity and improve their adaptive capacity to build climate resilient household productive systems, while also increasing carbon sequestration and reducing deforestation emissions.[97, 98, 99] Such ecosystem-based interventions will improve productive systems for sustainable land use, reduce food insecurity and increase household nutrition, and provide additional income generation opportunities. In addition, complementary adaptation measures will directly build adaptive capacity for farming communities, targeting their vulnerability to changes in water availability and increasing rainfall intensity that impact agricultural yields. These measures will include systems for rainwater harvesting and storage, irrigation and soil improvement, the use of drought or flood resistant seed varieties, creation and use of organic fertilizers, and access to weather and climate information to improve overall crop suitability, yields and productivity. In addition, training will be provided to farmers to use these systems in response to increasing impacts

[95] Lavorel et al. 2015. Ecological mechanisms underpinning climate adaptation services. Global Change Biology 21: 21-31.
[96] Tabor et al. 2018 : https://doi.org/10.3390/land7030090, Seymour and Harris, 2019: DOI: 10.1126/science.aax8546
[97] David M Landholm *et al* 2019 *Environ. Res. Lett.* **14** 114007. Reducing deforestation and improving livestock productivity: greenhouse gas mitigation potential of silvopastoral systems in Caquetá.
[98] http://www.fao.org/3/cb3141en/cb3141en.pdf
[99] IDEAM, Sistemas agroforestales y restauración ecológica como medidas de adaptación al cambio climático en alta montaña, Caso piloto, Proyecto Nacional de Adaptación al Cambio Climático –INAP– componente B, IDEAM y Conservación Internacional, Bogotá, 2011.

from more variable and intense precipitation patterns, including developing seasonal calendars to track and better adapt to seasonal shifts (see Annex 2 for full descriptions of proposed on-farm interventions with Ecohabitats).

109. These on-the ground EbA and on-farm adaptation interventions will be complemented and supported by efforts to improve governance structures for climate-responsive planning and development (Component 1), and to develop participatory monitoring systems to generate climate information for improved decision-making in territorial planning (Component 2). Since restoration and protection for EbA benefits is still a relatively new concept in Colombia, the training and capacity building in Component 1 and the use of participatory monitoring in Component 2 will be essential to coordinate, to both optimize chances for success and measure overall effectiveness over time.

110. While there are barriers associated with the use, occupation and tenure of land - particularly in the Amazon and Orinoco Transition mosaics - the project does not foresee any titling, relocation, adjudication or remediation of properties, but will support and accompany the strategies to strengthen territorial governance (Component 1) proposed by the National Agency for Lands ANT and National Natural Parks through Natural Conservation Contracts, as well as use and management agreements, which seek to improve the quality of life of the populations most affected by poverty and violence, prioritizing interventions in municipalities that implement the Development Program with Territorial Focus - PDET-, areas with the presence of illicit crops and deforestation nuclei within the framework of the implementation of the Integral Rural Reform (RRI) established in the peace process agreements[100].

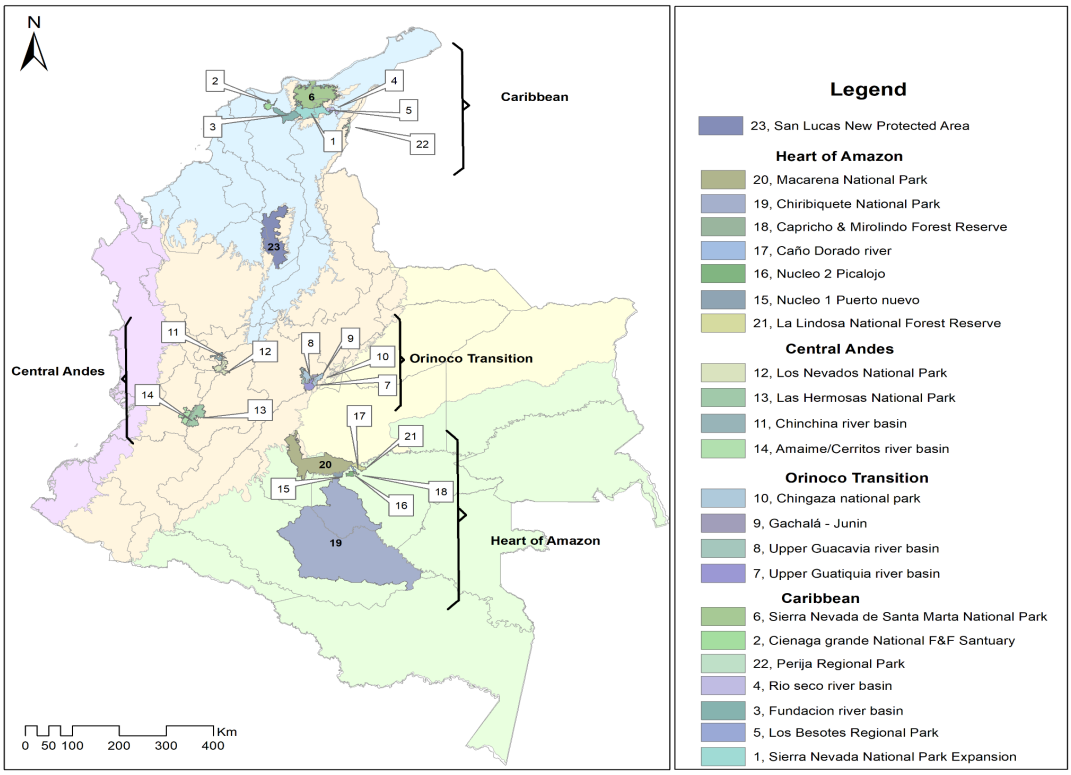

Figure 17. Project Implementation Sites (mosaics).

A detailed description of each component and associated outputs and activities is provided below.

Component 1. GOVERNANCE STRUCTURES FOR CLIMATE-RESPONSIVE PLANNING AND DEVELOPMENT

[100] Regarding the definition, creation and implementation of the Development Programs with a Territorial Focus (PDETs) and signing of the Action Plans for Territorial Transformation (PATRs). Each PDET was built throughout a multilevel, multiscale participatory process "designed to rebuild legitimacy and trust in the Colombian state within the 16 territories most affected by the armed conflict". To this end, 16 PATRs were signed, with more than 200,000 Colombians from 11,000 ethnic and campesino communities in the 170 PDET municipalities participating in these plans' development. The action plans are comprised of 32,808 "PDET initiatives" representing actions and projects identified by the communities to transform their living standards. Each plan is structured around eight pillars and contains municipal and subregional "PDET initiatives" . As outlined in Annex 6 (see Section 3. Project Area Profiles for each mosaic), some of the PDETs and PATRs share the objectives with HeCo activities and could benefit from their implementation as described within this Section. As of now, there is a limited implementation of those shared objectives.

IMPROVED AND IMPLEMENTED

Output 1.1 Inter-institutional governance strengthened in targeted landscapes for improved climate-informed and integrated land and water planning

111. When we refer to governance schemes, we mean the set and interaction of relationships and dynamics of people, institutions, and organizations (such as local governments, community and civil society organizations, academia and productive sectors) that influence and make decisions about landscape management, land use, and natural resources and have an impact on mitigation and adaptation to climate change, including priorities for ecosystem management to deliver services that support resilience (ecosystem-based adaptation). A governance scheme is characterized by being multi-stakeholder and multilevel, and consists of all bodies and spaces for coordination of stakeholders in the landscape, such as roundtables for coordination and dialogue, as well as the agreements emanating from these spaces for landscape management and decision-making to reduce deforestation, degradation and address increasing variability and rainfall and heat extremes, including increasing impacts and risks of hazards like droughts, flooding, and landslides. The methodology proposed by the project addresses the participatory planning of protected areas, in which local social stakeholders -including women from local communities- define information based on their appreciation and perception of nature. It should be noted that this includes men and women and nonbinary who, based on gender, have differential relationships related to territory and elements of the landscape .The agreements can include Indigenous lifeplans, forest management plans, and farm plans among others.

112. Strengthened governance by relevant actors within a landscape will lead to better management decisions for that mosaic. This outcome seeks to strengthen **institutional governance**, contributing to improved territorial planning and reduced pressures on ecosystems, and generating the enabling conditions to address the drivers of deforestation and specific climate hazards and long-term risks of each landscape (see Section B.1): increasing rainfall and temperature extremes and increasing variability and longer term shifts in climate, leading to the increased frequency and intensity of weather hazards like droughts, fires, flooding, and landslides, alongside other impacts and risks. Improved governance is critical for conflict resolution related to use of land and resources, e.g., conflict over water scarcity in Caribbean, Orinoco, and Andes mosaics, and over change in land use (deforestation) in the Amazon mosaic and the San Lucas Mountains.

Activity 1.1.1 Strengthen the capacity of Regional Systems of Protected Areas (SIRAP) and a Departmental a System of Protected Areas (SIDAP) to include a climate change focus within their management.

113. SINAP policy emphasizes the need to engage different institutional and civil society actors, stakeholders, and rights-holders, to advance landscape-scale complementary conservation strategies, using SINAP planning instruments to effectively manage protected areas. It also emphasizes the need for prevention and differential resolution of conflicts arising from land use, occupation, and tenure, among other causes. In this policy framework, the Regional Systems of Protected Areas (SIRAP) and Departmental Systems of Protected Areas (SIDAP)[101] are key nodes for implementation, to coordinate a set of national, regional, and local public and private protected areas, social and institutional actors, strategies, and existing management instruments in a given region. These bodies are currently mandated to prioritize the management of protected areas in the context of climate change, but lack the capacity to comply with these mandates. A detailed description of these stakeholders within each landscape can be found in Annex 7, the Stakeholder Engagement Plan.

114. Most of the SIRAPS in Colombia have action plans that incorporate regional and departmental priorities for conservation and roadmaps to achieve these mandates. However, these plans do not include elements of adaptation to climate change or management in scenarios of uncertainty associated with water resource management and land use change at the landscape scale. For example, for the SIDAP Guaviare's action plan to include sufficient climate actions, it is necessary to improve the quality of information—e.g., actionable and predictive weather and climate data and guidance that local farmers and PA managers can use to make crop or management decisions—and the capacity

[101] SIRAP and SIDAP are management levels recognized by law (2372 decree and CONPES 4050). This does not make them legal entities, but it gives them possibilities as a multi-stakeholder platform to convene entities, lead the regional action plan for protected areas and manage resources for PA subsystems. SIRAP/SIDAP have technical secretariats and steering committees, generally made up of national/regional/municipal environmental authorities. It is these authorities and organizations that have legal status to carry out activities in the field, which agree on coordinated actions in these structures.

of its participants and to incorporate new institutional actors. Currently, government institutions participate actively in the SIRAPS / SIDAP. In some regions academia and civil society also participate, but their involvement in most of these regions is incipient, which limits the ability to reach consensus solutions between the different actors who make decisions about the territory and who influence the climate solutions that may be proposed. Increased participation, including by women and other vulnerable groups, is needed.

115. Under Activity 1.1.1, the integration of climate change into the management of SIRAPs and SIDAPs will be strengthened. WWF Colombia will implement this activity as EE. Specific outputs and objectives of this activity are described under its sub-activities below.

1.1.1.a Strengthen 4 SIRAPs and 1 SIDAP by supporting meetings at least twice a year and support the technical secretariats of these bodies to strengthen their climate agendas and priorities, mainly those associated to solve the climate problem identified in each landscape.

116. This sub-activity will strengthen four SIRAPs[102] and one SIDAP: 1) Caribbean Mosaic - SIRAP Caribbean; 2) Andes Mosaic- SIRAP Eje Cafetero and SIRAP Andes Occidentales; 3) Amazon Mosaic- SIRAP Amazonas; 4) Orinoco Mosaic -SIRAP Orinoquía; and 5) Amazon Mosaic - SIDAP Guaviare. WWF Colombia will lead this activity by providing support to the SIRAP and SIDAP technical secretariats. Each SIRAP and SIDAP has a technical secretariat made up of professional staff based in the regional offices of PNN and, in some cases, in the Regional Autonomous Corporations (the CARs). In the case of the SIDAP Guaviare, the technical secretariat is within the Nukak Maku Natural Reserve. Strengthening the climate agendas of these bodies will involve supporting biannual meetings of the SIRAPS and SIDAP and building the capacity of the staff in the technical secretariats to address the specific drivers of deforestation and priority climate hazards and risks in each landscape.

1.1.1.b Support the incorporation of actors and strengthening of the participation scheme of the SIRAPs / SIDAP to increase the adaptive management of the region with a climate-responsive approach.

117. WWF Colombia will carry out a stakeholder assessment in Year 1 and develop an action plan for each SIRAP/SIDAP to enhance participation, including the participation of underrepresented and vulnerable groups. It will design and carry out capacity building and participatory exercises to improve the ability of the SIRAP/SIDAP to define territorial management priorities in the region and develop land use plans that integrate and respond to climate risk information, including priority impacts and risks as identified in B.1 for each mosaic. These participatory mapping exercises will be designed to update and adjust connectivity analyses in the landscapes based on climate information and to link this information to territorial planning instruments (see Activity 1.1.3 below), protected areas management plans, and SIRAP/SIDAP action plans.

1.1.1.c Support the definition of conservation priorities at the regional level with a climate focus (construction / updating of portfolios) (including benefits of nature, species and cultural values related with climate information) to establish new protected areas or manage existing ones, and land use plans for each region in the face of changes due to climate change.

118. WWF Colombia will design and carry out capacity building and participatory exercises to improve the ability of the SIRAP/SIDAP to define territorial management priorities in the region and develop land use plans that integrate and respond to climate risk information, including priority impacts and risks as identified in B.1 for each mosaic. Key deliverables under this sub-activity also include updated action plans for each SIRAP/SIDAP addressing climate hazards and risks in each geography.The process of definition of conservation priorities shall take into consideration cultural and social values that women, men, and other social groups from neighboring communities have regarding climate information.

1.1.1.d Improve the participation and qualification of at least 60 leaders of indigenous peoples, local communities and civil society in the SIRAPs / SIDAP of four mosaics for the generation of agreements associated with water management and forest management.

[102] At present, as San Lucas is not yet created as a protected area, it is not part of the SIRAP or the NRCC as an "actor". Once the area is created it will become part and will be called as such. However, the area of what is now San Lucas is part of the SIRAP Caribe jurisdiction and the Caribbean Regional Node on Climate Change, therefore, it is articulated. It is expected that once the area is created, it will seek to have a differential strategy for its incorporation to both the Node and the SIRAP within the framework of the route established by National Parks and stakeholders of the area.

119. This activity will improve the capacities of at least 60 leaders of indigenous peoples, local communities, and civil society in the SIRAPs/SIDAP of the four mosaics to generate agreements on water management and forest management. Special efforts will be made to ensure the participation of at least 18 women and youth among these leaders. Given that SIRAPS and SIDAPS could involve vulnerable populations such as indigenous peoples, peasant communities and afrodescendant communities, a differential strategy will be developed to adapt to the socio-cultural contexts of each of the areas, aligned with their conservation priorities and inclusive governance. By improving the knowledge and information management capacities of institutions, organizations and community leaders, the Action Plan of each SIRAP/SIDAP will be strengthened and improved so that it incorporates and strengthens climate management as part of its priorities in each landscape. Each landscape has a preliminary mapping of indigenous, local and civil society organizations, which will be updated once the project has begun. In this context, each indigenous, community or civil society organization identified in each landscape will be autonomous in the designation of the delegates that will participate in the spaces for participation and involvement foreseen by the project. However, the project will request that the designated leader or leaders have been formally delegated to a decision-making body of the organization (e.g., board of directors or general assembly) and that the selection of delegates takes into account gender equity in their designation.

1.1.1.e Participatory mapping to enhance connectivity for climate adaptation and mitigation- relates to Activity 3.2.2.- to identify priorities and opportunities for to address specific climate hazards and risks in each corridor for Ecosystem-based Adaptation (EbA).

120. WWF Colombia will design and carry out capacity building and participatory, inclusive exercises to update and adjust connectivity analyses in the landscapes based on climate information and to link this information to territorial planning instruments (see Activity 1.1.3 below), protected areas management plans, and SIRAP/SIDAP action plans. Key deliverables under this sub-activity also include updated action plans for each SIRAP/SIDAP addressing climate hazards and risks in each geography.

Activity 1.1.2 Strengthen the capacity of the Climate Nodes within each landscape in order to assess the climate adaptation and mitigation dimensions of landscape management.

121. The Regional Climate Change Nodes (NRCC) are bodies that integrate regional-level institutions in the implementation of the National Policy on Climate Change. Governments, municipalities, large urban centers, environmental authorities, research institutes, NGOs, PNN, sectoral unions, communities, and other entities participate in the Regional Climate Change Nodes. A detailed description of the nodes can be found in Annex 7. Currently, Colombia has nine regional climate change nodes that have recently developed and identified their priorities in terms of mitigation and adaptation, as well as specific action plans for the medium and long-term based on the country's national climate change goals.

122. The NRCCs currently have several limitations which prevent them from adequately fulfilling their mandate and expected performance. The participation of key actors that affect territorial planning and land use, such as productive sectors, civil society organizations, indigenous organizations, and afrodescendant and peasant women is insufficient. There are shortcomings in the management of information and communication mechanisms between the local, regional and national levels. The NRCCs lack technical knowledge, and depend to a great extent on the political will of the public institutions that lead them because they do not have their own resources. There is a need for climate information to be communicated clearly so that participants can make decisions about, for example, adjustments needed in productive systems due to increasingly frequent and intense drought or extreme rainfall.

123. The technical secretariats of the NRCCs are within the Regional Autonomous Corporations (CARs) with oversight/technical follow-up by the Climate Change Division of MinAmbiente to encourage their action plans to contribute to the national goals for mitigation and adaptation. This activity will strengthen four Regional Climate Change Nodes and one Sub-node[103]: 1) Caribbean Mosaic: NRCC Caribbean; 2) Andes Mosaic: NRCC Eje Cafetero; 3) Andes Mosaic: NRCC Centro Oriente Andino; 4) Amazon Mosaic: NRCC Amazonas, and 5) Guaviare Sub-Node.

[103] At present, as San Lucas is not yet created as a protected area, it is not part of the SIRAP or the NRCC as an "actor". Once the area is created it will become part and will be called as such. However, the area of what is now San Lucas is part of the SIRAP Caribe jurisdiction and the Caribbean Regional Node on Climate Change, therefore, it is articulated. It is expected that once the area is created, it will seek to

124. Activity 1.1.2 will build the capacity of Climate Nodes within each target mosaic to assess adaptation and mitigation dimensions of landscape management. WWF Colombia will implement this activity as EE. This activity will benefit the four NRCC named above, the indigenous organizations of the Sierra Nevada de Santa Marta, the Community Councils of Candona, Arcila and Tunez; the Community Action Boards of San Jose del Guaviare, El Retorno in the department of Guaviare; and the municipalities of Manizales, Villamaría, El Cerrito and Palmira. Specific outputs and objectives of this activity are described under its sub-activities below.

1.1.2.a Strengthen 4 regional climate change nodes (NRCC) and 1 sub node by supporting meetings at least twice a year and supporting technical secretariats for the implementation of their action plans on mitigation and adaptation in every landscape.

125. Strengthening these bodies' climate agendas will involve supporting biannual meetings of the NRCCs and building the capacity of the staff in the technical secretariats to address the specific drivers of deforestation and priority climate hazards and risks in each landscape. The design and implementation of the NRCC action plans on mitigation and adaptation will be improved in every landscape.

1.1.2.b Improve the participation and qualification of at least 60 representative leaders of organizations of indigenous peoples, local communities and civil society in the 4 NRCCs / 1 sub node.

126. This sub-activity will include strengthening the capacity of at least 60 representative leaders of organizations of indigenous peoples, local communities and civil society to participate in the NRCCs. Special efforts will be made to ensure the participation of at least 18 women and youth among this cohort of leaders.

1.1.2.c Design and implement a training program on the use of climatic and hydrological data for risk prevention, and the improvement of water management to develop the capacities of territorial entities and local communities participating in each of the 4 NRCCs / 1 sub node.

127. WWF Colombia will design and implement a training program on the use of climatic and hydrological data to improve water management, and to improve Georeferencing capacities (GPS), integrated river basin management, climate change and climate variability, risk and vulnerability zoning and territorial planning for risk reduction to develop the capacities of the territorial entities and local communities participating in each of the four NRCCs. The capacity of at least five territorial entities and ten community organizations in the landscapes will be strengthened in the use of climatic and hydrological data for risk reduction and the improvement of water management.

1.1.2.d Strengthen the articulation and coordination of the NRCCs and the SIRAP / SIDAP for landscape management decisions with climatic variables for the increase of the climatic resilience of the hydrographic basins of interest.

128. Building on Sub-activity 1.1.2.c, NRCCs and SIRAP /SIDAP for landscape management decisions will be better articulated and coordinated to ensure that key hydrographic basins more effectively managed for climate resilience.

1.1.2.e Strengthen the communication and dissemination strategies of the 4 NRCCs / 1 sub node with regional actors for awareness and dissemination of the Node's measures and actions.

129. WWF Colombia will develop communication tools designed to be accessible to the diversity of stakeholders in the landscape.

1.1.2.f Design and implement a training program on Monitoring, Reporting and Verification of Emissions, as well as the Monitoring and Evaluation of Adaptation in the prioritized areas to support the 4 NRCCs / 1 sub node in their training priorities to address climate solutions.

130. WWF Colombia will also design and implement a training program on Monitoring, Reporting and Verification of Emissions and the Monitoring and Evaluation of Adaptation in the prioritized areas.

Activity 1.1.3 Facilitate incorporation of climate considerations into regional and territorial land use planning to achieve a common vision with climate resilience goals and deforestation targets

131. This activity seeks to articulate and harmonize the existing municipal territorial planning and environmental territorial planning instruments in the project implementation sites to contribute to the consolidation of landscapes that

have a differential strategy for its incorporation to both the Node and the SIRAP within the framework of the route established by National Parks and stakeholders of the area.

are more resilient to climate change. The existing planning instruments need to explicitly include consideration of climate risks and hazards for adaptation, ecosystem services for EbA, and deforestation for mitigation. These considerations need to be effectively incorporated into the instruments of territorial zoning (POT, PBOT, EOT), and the instruments of environmental zoning (POMCA, PORH), in the context of the Environmental Determinants defined for the municipalities in the implementation sites for the project.

132. Colombia has two primary territorial environmental planning instruments. The Watershed Zoning and Management Plan (POMCA) is the instrument through which the coordinated use of natural resources (soil, water, flora and fauna) in a watershed is carried out. The population living in the basin participates in the development of the POMCA, as is conducive to the proper use and management of these resources. POMCAs are based on the protection, conservation, and sustainable use of renewable natural resources, the safe occupation of the territory, and avoiding new risk conditions in the basin. The Water Resource Management Plans (PORH) are the planning instruments that allow, through the relevant environmental authority, systematic intervention in water bodies to guarantee the quality and quantity required to sustain aquatic ecosystems as well as the current and potential uses of these bodies of water. The project will ensure inclusive participation that includes women and marginalized populations, not only as beneficiaries but as decision makers.

133. Environmental Determinants refer to laws and regulations that are hierarchically superior to Municipal Territorial Planning instruments (POT, EOT and PBOT) and consist of all those norms, guidelines, and directives issued by the national and regional environmental authorities (MinAmbiente, CAR, PNN). Therefore, municipal environmental determinants include land use designations such as national and regional protected areas, hydrographic basins subject to management, and forest protective reserves, among others. In turn, it is important to specifically integrate climate change with a gender approach into the implementation of territorial planning mechanisms at different levels, to achieve policy coherence at a local level. The Integrated Regional Climate Change Management Plans (PRICC) are important for the integration of climate change into specific regional processes. The national environmental system, SINA, includes various key stakeholders in its social component. Among these are the Presidential Council for Women, and several ministries that have sectoral areas focused on gender issues (for example, defense, environment and agriculture). Therefore, it is recommended to involve the presidential council more actively as the national level body responsible for public policy on gender equality and processes such as the DMR of the MADR and the gender focal point and CC of the Ministry of Environment.

134. The Territorial Zoning Plan (POT) is the set of objectives, guidelines, policies, strategies, goals, programs, actions and standards, aimed at guiding and managing the physical development of the territory and the use of municipal land. It guides the use of urban and rural land to consolidate a specific territory. The type of instrument applied is according to the population of the municipality. The Territorial Zoning Plan (POT) applies to districts and municipalities with a population greater than 100,000 inhabitants; the Basic Territorial Zoning Plan (PBOT) in municipalities with a population between 30,000 and 100,000 inhabitants, and the Territorial Zoning Schemes (EOT), in municipalities with a population of less than 30,000 inhabitants. The main needs associated with the incorporation of climate change considerations concern the municipal territorial planning instruments (the POT, PBOT and EOT) and the coordination of these instruments with those aimed at environmental planning (the POMCA, the PORH and the Environmental Determinants defined for each municipality).

135. In the Caribbean Mosaic, the activity will support the coordination of the Sierra Nevada de Santa Marta NP management plan with the territorial planning instruments of surrounding municipalities. Also in the Caribbean Mosaic, in the SNSM-Cienaga Grande Corridor, environmental determinants will be incorporated into the POMCA Río Fundación, POT Fundación, Pivijay, Algarrobo, El Retén, Ciénaga, and Aracataca territorial planning instruments. In the Orinoco Mosaic the focus will be on the San Juanito - El Calvario Corridor, and in the Amazon Mosaic, the focus will be the Macarena - Chiribiquete corridor. WWF Colombia will implement this activity as EE. This activity will benefit the residents of the municipalities that will have improved territorial and water resource management planning tools. Specific outputs and objectives of this activity are described under its sub-activities below.

1.1.3.a Integrate climate change considerations and social and environmental determinants into the instruments of territorial zoning (POT, PBOT, EOT), and the instruments of environmental zoning (POMCA, PORH) prioritized in issues of sustainable use of biodiversity, adaptation and mitigation of climate change, sustainable local development, green

businesses and productive reconversion in the selected territorial entities of 4 mosaics (Andes Centrales, Caribbean, Transición Orinoquía, Corazón Amazonía).

136. For each mosaic and the implementation sites/corridors within them, technical information related to climate change adaptation and mitigation will be incorporated into municipalities' territorial planning and watershed management instruments. In the first year of the project, key themes to be developed and the technical information needs for each territorial and water resource management planning instrument designed to ameliorate increasing variability and hazards and longer-term shifts in water availability will be assessed. As of year two, annual reports will be prepared that compile technical inputs to be articulated within the framework of the instruments of environmental management of the territory and the pertinent actions for their articulation will begin.

1.1.3.b Design and implement a training program for community and institutional delegates (environmental authorities, municipalities, governorates) for each landscape on how to incorporate variables and elements in the instruments of territorial zoning and basin management of 30 municipalities with jurisdiction of landscapes, 9 departments, 6 river basins. to generate climate models in the prioritized basins.

137. WWF Colombia will design and implement a training program for regional environmental authorities and municipalities in prioritized watersheds on the implementation of water resource planning instruments to ameliorate increasing variability and hazards and longer-term shifts in water availability, tailored to the specific impacts and risks identified in B.1 (i.e., increasing aridity and drought in the Orinoco and the Caribbean, and extreme heat and rainfall in all mosaics). A training needs assessment will be carried out with the beneficiary community and institutional actors in the first year. During year two, the training mechanisms will be defined according to the specific needs in each landscape, as well as the data collection mechanisms that will contribute to the consolidation of the climate models. From year three onwards, the training will be done for 20 institutional actors and 80 community actors (different from those trained/benefitting from Activities 1.1.1 and 1.1.2), and the activities defined by the beneficiary actors, until year nine of the project. Representation of women, youth and other vulnerable groups will be emphasized.

1.1.3.c Facilitate 4 annual intersectoral roundtables ((i) cattle ranching, (ii) agriculture, (iii) water services, (iv) forest management) within the framework of the climate change nodes of 4 landscapes, with private actors, unions, associations, community delegates and delegates from territorial institutions and national / presidential agencies (National Land Agency, Office of the Presidential Councilor for Stabilization and Consolidation) of land for the identification of pressures, threats and land use change and climatic vulnerability for the generation of criteria and variables to be adopted in the instruments of land use planning.

138. WWF Colombia will facilitate annual intersectoral roundtables with private actors, unions, associations, community delegates, and delegates from territorial institutions and national agencies (e.g., National Land Agency). These roundtables will identify pressures and threats related to land use change and climatic vulnerability and criteria and variables to be adopted in the instruments of land use planning. Starting in year two, the intersectoral roundtables will be held every two years (four per mosaic, 16 in total) within the framework of the NRCCs in each of the four landscapes, involving 40 people each. In order to ensure the participation of women's institutions and representatives at governmental level, the Presidential Council for Women will be invited to these annual meetings as well as the Direction of Rural Women from the MADR.

1.1.3.d Prepare suitability maps at scales 1:25,000 at the (i) corridor, (ii) conservation areas, (iii) municipal, (iv) village and (v) property levels for the planning of the territory according to variables and defined climatic criteria.

139. Land use suitability maps will be generated at the corridor, conservation area, municipal, village and property levels for territorial planning according to these variables and criteria. For the land use suitability maps, an assessment of the cartographic inputs needed will be carried out with the institutional and community actors in the conservation landscapes in year one. By year two, an estimated 20 land use suitability maps will be completed (four per mosaic) at the corridor, conservation area, municipal, village, and property levels that will serve as important inputs to the territorial planning instruments.

1.1.3.e Design and implement a training program on the implementation of water resource planning instruments for environmental authorities and territorial entities.

140. WWF Colombia will also design and implement a training-action program with community and institutional delegates for each landscape (e.g., environmental authorities, municipalities, and departments) to generate climate

models in the prioritized basins and incorporate variables and elements in territorial planning and basin management instruments.

Output 1.2 Community governance with SINAP and within connectivity corridors strengthened to improve climate-informed land and water use

141. Strengthened governance by relevant actors within a landscape will lead to better management decisions for that landscape. Governance, according to the conceptualization of SINAP's policy (which in turn takes the guidelines of IUCN), is understood as the interactions between structures, processes and traditions that determine how power and responsibilities are exercised, how they are taken decisions and how different stakeholders have a voice. The quality of governance of a protected area system can be assessed according to some general principles of good governance recommended including: legitimacy and voice, direction and performance. In this sense, communities and strategic actors duly trained in the use of their citizen rights and sufficient knowledge of the issues to be addressed, will have the power to participate in an informed manner in the different instances that affect the planning of the territory. According to the diagnosis of SINAP's policy (built in a participatory manner) it was identified that one of the main barriers to the management of protected areas is precisely the low generation of capacities in the different actors to strengthen governance schemes, as well as the weak participation of local communities in spaces of coordination and territorial planning. Hence, one of its strategic lines is aimed at "Improving governance for inclusive and co-responsible management of protected areas and different areas of SINAP management with a focus on justice and rights"[104], where part of its actions are aimed at increasing training and strengthening capacities related to planning, management and administration of protected areas.

142. This output seeks to strengthen community governance within landscapes to contribute to reducing pressures on ecosystems and to address the specific drivers of deforestation and priority climate hazards and longer-term risks in each mosaic, including increasing drought and aridity affecting water supplies, landslides and erosion from extreme rainfall, increasing seasonal variability, and flood risk. The strengthening of community governance includes activities that will improve the organizational structures of the communities, their coordination, their capacities, and their participation in the decision-making bodies listed under the activities below and described in Annex 7, through support for internal decision-making spaces such as assemblies, meetings, workshops, exchanges, and through improved organizational structures.

143. Eight climate governance schemes will be strengthened in the intervention landscapes: Caribbean Mosaic: 1) Ciénaga Corridor, 2) Besotes Perijá Corridor, 3) PNN Sierra Nevada de Santa Marta; Andes Mosaic: 4) Corredor las Hermosas, 5) Corredor los Nevados; Orinoco Transition Mosaic: 6) Chingaza corridor; Amazon Mosaic: 7) Macarena-Chiribiquete Corridor; and 8) San Lucas Mountains.

Activity 1.2.1 Promote the adoption and implementation of governance schemes within the targeted geographies with the participation of local communities, public institutions, and sectors with a gender and intergenerational focus to improve dialogue and define targets to reduce deforestation and vulnerability to climate change

144. In Colombia, as well as at a global level, it is increasingly recognized that when communities are properly trained, they have greater power to dialogue with other types of actors and ability to self-organize so that they can have a greater level of influence in political aspects and territorial management decisions. For this reason, training is considered to be one of the fundamental elements of the governance of a landscape along with other interventions included within this proposal, such as the promotion of planning instruments of the communities (such as life plans, ethno-development plans, community environmental management), support for participation in a space for coordination and dialogue with other actors in the territory and authorities, exchanges of experiences and the strengthening of traditional knowledge. As part of the strengthening of governance, special importance is also given to the role of women and young people in spatial planning strategies, since it allows for a localized vision that contributes to the identification of nature-based solutions in each landscape according to the roles of each demographic. The proposal seeks to have

[104] Document Conpes 4050 of September 2021 “Policy for the Consolidation of the National System of Protected Areas -SINAP

differential strategies for women, youth and indigenous groups according to their own contexts and dynamics, which is described in Annex 7 of the proposal.

145. This activity will focus on strengthening the organizational structures of the communities and their coordination, qualification, and participation in the decision-making bodies listed below and described in Annex 7, through support for internal decision-making spaces such as assemblies, meetings, workshops, and exchanges, and through improvement of organizational structures. In all of the multi-actor spaces described below, the project participants will seek to reach solutions such as agreements on water management and forest management, roadmaps or action plans, and actions to improve landscape management in relation to water and forests. In the Andes Mosaic this activity will support the strengthening of the governance scheme of the Páramos Los Nevados complex led by PNN in the buffer area for hydrological regulation and protection of headwaters (cuencas abastecedoras). As described in Section B.1, the paramos are the ecosystem most vulnerable to climate change and will require changes in management under scenarios of decreased precipitation to maintain their provision of ecosystem services. In the Amazon Mosaic this activity will strengthen the capacities of Asojuntas de Guaviare and El Capricho to develop strategies and agreements that reduce deforestation and land use change in the landscape. In the Orinoco Transition Mosaic, the activity will strengthen environmental and territorial governance and the planning strategy of the PNN Chingaza and the communities of San Juanito, El Calvario, Fomeque and Choachi for improved water resource management.

146. In the Caribbean Mosaic the governance schemes of the indigenous peoples of the Sierra Nevada de Santa Marta will be strengthened through the implementation of the territorial management plans of the indigenous communities of the SNSM (Arhuaco, Kogui, Kankuamo and Wiwa peoples) and ethno-development plans with the Afro-descendant communities through the Community Councils of Tunisia, La Cadona, and Arcila. These plans will include measures that contribute to the improvement of the quantity and quality of the water supply and that counteract the pressures for land use change that negatively affect the supplying basins *(cuencas abastecedoras*). Adoption of measures for adaptation in the face of the impacts caused by decreasing rainfall will also be sought. Local governance structures in the San Lucas Mountains Landscape will also be strengthened.

147. WWF Colombia will implement this activity as EE to support the relevant Regional Environmental Authorities (CVC, Corpocaldas, Carder, Corpocesar) and following community organizations in each Mosaic: Andes: Watershed Councils and water boards of Villa Maria, Manizales, Cerrito, Palmira, Cuenca Chinchiná and Amaime; Amazon: Asojuntas de Guaviare and El Capricho; Orinoco Transition: communities of San Juanito, El Calvario, Fomeque and Choachi; Caribbean: Kogui Resguardo, Malayo Arhuaco, Cabildo Kankuamo Río Seco, Community Councils of Tunis, Candona and Arcila. This activity will benefit the Watershed Councils and water boards of Villa Maria, Manizales, Cerrito, Palmira, Cuenca Chinchiná and Amaime in the Andes Mosaic; Asojuntas de Guaviare and El Capricho in the Amazon Mosaic; the communities of San Juanito, El Calvario, Fomeque and Choachi in the Orinoco Transition Mosaic; and the Kogui Reservation, Malay Arhuaco, Cabildo Kankuamo Río Seco, Community Councils of Tunis, Candona and Arcila in the Caribbean Mosaic. Specific outputs and objectives of this activity are described under its sub-activities below.

1.2.1.a Define a roadmap for each (10) community organizations from each landscape to develop a specific organizational development plan to enhance social and gender inclusion, enhance participation skills and operations systems to implement NbS measures in their territories.

148. An organizational development plan to enhance social and gender inclusion and to enhance participation skills and operational systems to implement nature-based solutions in their territories will be prepared for ten community organizations from each landscape. At least two of these organizational development plans will focus on empowering groups of youth and women in prioritized landscapes so that they actively participate in landscape decisions. The Roadmap will include ASOMUPROCAL -an association of women working on agri-environmental and social development in the municipality of El Calvario. Eventually some newly identified organizations will be included as well.

1.2.1.b Strengthen at least 7 environmental management and planning tools for indigenous, Afro-descendant and peasant communities with an inclusive and climate approach.

149. Over the course of the project this activity will strengthen the socio-environmental land use management plans of at least seven indigenous, Afro-descendant, and peasant communities with a focus on climate adaptation. Management and planning tools will include gender and culturally responsive material adapted to each context

1.2.1.c. Strengthen at least 1 space for inter-ethnic dialogue to resolve conflicts in the use and management of forests and water management.
Management and planning tools will include gender and culturally responsive material adapted to each context

1.2.1.d. Generate a baseline and an action plan of actors in year one who interact and make decisions in land use planning, water resource management, forest management in each of the prioritized landscapes and basins.

150. In the first year of the project a baseline assessment of the actors in each of the prioritized landscapes and basins will be carried out, including how they interact and make decisions about land use planning, water resources management, and forest management.

1.2.1.e Strengthen or create multi-stakeholder roundtables for private sector, civil society, institutions in each mosaic so that agreements are generated for climate-smart solutions associated with the management of water resources and forest management in the prioritized areas and implementation of good practices, reconversion and productive alternatives in each landscape.

151. This sub-activity will strengthen or create five multi-stakeholder roundtables (including participation from the private sector, such as Isagen) in each landscape and conclude agreements on climate-responsive water and forest management solutions in prioritized areas. Gender analysis will be raised as a relevant input for such roundtables, regarding gender responsive forest management and water provision. The activity will create or strengthen four multi-stakeholder roundtables associated with the implementation of good practices and restoration and productive alternatives in each landscape, and at least five committees with the participation of delegates from CARs, local governments, local communities, and civil society for the monitoring and follow-up of conservation agreements and the strengthening of local governance.

1.2.1.f Create or strengthen at least 5 committees in 5 targeted geographies with the participation of delegates from the CARS, territorial entities, local communities and civil society for the monitoring and follow-up of conservation agreements and strengthening local governance of the conservation agreements and the strengthening of local governance.

1.2.1.g Facilitate the adoption of right-to-use contracts between National Land Agency, Office of the Presidential Councilor for Stabilization and Consolidation and farmers in unprocured vacant lots of Caribbean, Amazon, and Orinoco Transition mosaics.

152. This sub-acitivty will support adoption of 600 right-to-use contracts in forest reserve lands within the Caribbean, Amazon, and Orinoco Transition landscapes to regularize occupation and promote legal production systems to combat deforestation and prevent forest degradation. These use rights contracts are also known as Natural Conservation Contracts and involve the granting of rights to use land to rural families living in non-adjudicable lots under specific conservation agreements. The establishment of “Natural Conservation Contracts” is an initiative led by the national government in the framework of the implementation of the 2016 peace agreement signed between the Colombian State and the FARC-EP guerrilla. This initiative seeks to provide development alternatives in areas highly impacted by the armed conflict. The adoption of a contract agreement of right-of-use is to have a document that represents that the family living in a certain "unprocured" territory has the support of the State to continue living in this property and in return opens the possibility of accessing a payment or incentive for environmental services such as developing restoration processes and support for sustainable production systems, among others. In this context, the adoption of a use agreement or contract means the formal signing of a legal document between the family, the competent national entity -National Land Agency- and the environmental authority. "Unprocured vacant lands"[105] are those territories that are property of the State and therefore do not belong to any other person. The Colombian government sees this approach as a fundamental tool to address conflict related to land use, occupation, and tenure. These Natural Conservation Contracts aim to conserve and restore environmentally sensitive areas, regularize the use of vacant lots, and improve family economies through the development of sustainable livelihoods. The program recognizes the land access rights of the population most affected by violence and poverty, and contributes to the fulfillment of climate change goals by decreasing deforestation.

[105] This definition is found in Article 675 of the Colombian Civil Code: "All lands that being located within the territorial limits lack any other owner, are property of the Union".

Activity 1.2.2 Strengthen the capacity of local communities and their understanding of climate change, incorporating indigenous knowledge and gender responsiveness

153. This activity will promote education and training processes in community organizations and institutions in each landscape to improve their knowledge and capacities regarding the management of water resources and to provide tools for resilient landscape management and the mitigation of pressures due to changes in land use. It will also design and implement communications strategies in the four landscapes, based on the needs and priorities identified by the stakeholders in each landscape.

154. Training needs for community leaders and officials from local institutions who make decisions about territorial management on issues that contribute to addressing the drivers of deforestation and land use change and climate change impacts and risks in each of the landscapes have been identified. Through the strengthening of capacities of leaders of the areas, of educational centers in environmental education, and of communication strategies for the general population, there will be a greater knowledge, appreciation, and awareness of the identified climate problem, which will improve management decisions in the landscape.

155. On the other hand, the knowledge and traditional practices of use and management of nature by indigenous peoples, Afro-descendants, and local communities have made possible the conservation of ecosystem services in the landscapes and have generated innovations and solutions based on nature that have benefited these communities. At present, much of this knowledge is being lost, due to factors such as the weakening of the traditional structures that hold and maintain this knowledge, the migration and loss of interest by younger generations, and the loss of sacred places, among others.

156. The focus of this activity is to promote and recover traditional knowledge and practices that contribute to climate resilience and specific solutions to address deforestation and land us change and increasing climate hazards identified with the indigenous organizations of the Sierra Nevada de Santa Marta, the Community Councils of Candona, Arcila and Tunez, the Community Action Boards of San Jose del Guaviare, El Retorno in the department of Guaviare, and the DMI Ariari-Guayabero communities. This activity will also promote the strengthening and training of women's and youth groups in four landscapes for making water and forest management decisions. Specifically in the Andes Mosaic, this activity will train environmental leaders that participate in the SIRAP Eje Cafetero, the river basin councils, and the water boards in Manizales, Villamaría, Cerrito and Palmira with a gender and inter-generational approach, targeting the identified risks of increasing aridity and extreme heat, including drought, and overall increasing rainfall, landslide, and flooding risks.

157. In the Amazon Mosaic, within the framework of the Inter-institutional Committee for Environmental Education (CIDEA) and in coordination with the activities of the Amazon Vision Program and GEF Heart of the Amazon, this activity will strengthen the capacites of the School Environmental Projects-PRAE on water resources and climate change action; the environmental projects of PROCEDA; and the community communication strategies of the Community Action Boards of San Jose del Guaviare and El Retorno. The activity will strengthen environmental committees and civil society organizations such as Corpolindosa and the youth organization Fundación Raíces de Mi Tierra for the implementation of a strategy of communications focused on both the deforestation drivers of climate change and increasing vulnerability to new extremes, including extreme rains, heat, variability, drought and fire. It will also seek to promote knowledge and knowledge exchange practices between peasant communities and the institutions of the municipalities of Guaviare and El Retorno concerning management of water resources and forest ecosystems and their relationship to ecosystem services and connectivity.

158. In the Orinoco Transition Mosaic, the environmental education and communications strategy of the PNN Chingaza will be implemented in the communities of San Juanito, El Calvario, Fomeque, Choachi and La Calera. Community environmental education strategies of educational institutions and civil society organizations of these municipalities such as Cortuagua, Fundación Grupo Conserva and Asofrimeta will also be strengthened, under a gender and intergenerational approach.

159. Finally, in the Caribbean Mosaic, the communication and environmental education strategy of the PNN SNSM management plan will be implemented. This strategy will include support for the San Lorenzo Experimental Station as an environmental education center managed jointly between the PNN and the four indigenous peoples in the mosaic.

The technical capacities of National Park officials and environmental authorities on climate change will also be strengthened and an agreement will be reached with the environmental authorities of the Wiwa, Kogui, Makayo, Arhuaco, Kankuamo peoples and the Afro-descendant community councils of Tunisia, Arcila and La Candona de Guacoche, and Guacochito on training and education needs according to their social and cultural contexts with a gender and intergenerational approach. The traditional knowledge structures and systems associated with the territorial management of the indigenous traditional authorities of the SNSM will also be strengthened, through the creation of spaces for intergenerational transmission of traditional knowledge, protection of sacred places that are of importance for the generation of knowledge, and support for traditional indigenous authorities.

160. WWF Colombia will implement this activity as EE to support the Cogui Malayo Arhuaco Reservation, Sierra Nevada de Santa Marta NP, Macarena NP; Chiribiquete NP, and the Asojuntas del Guaviare y el Retorno. In the Caribbean Mosaic this activity will benefitthe four indigenous peoples of the SNSM, peasant communities of the SNSM NP, and the Afro-descendant community councils of Tunis, Arcila and La Candona de Guacoche and Guacochito. In the Caribbean Mosaic this activity will benefit the SNSM NP, Corpocesar, the Kogui Malayo Arhuaco Reservations, the Kankuamo reservation of Río Seco, and the Afro-descendant Community Councils of Tunisia, Cardona and Arcila. In the Amazon Mosaic: the CDA, Asojuntas del Guaviare, Asojuntas del Retorno, Corpolindosa, the Fundación Raíces de Mi Tierra youth organization. Specific outputs and objectives of this activity are described under its sub-activities below.

1.2.2.a In the first year, a baseline of groups of women and young people existing in each landscape oriented to environmental issues and of public institutions that have this issue involved in their actions will be built.

1.2.2.b In year 2, multi-stakeholder instances will convene and strengthen at least 2 groups of young people and women in the prioritized landscapes so that they actively participate in landscape decisions. In year 5, at least 3 (total) groups of women and young people and by year 7, at least 6 (total) groups of women and youth strengthened.

1.2.2.c.) By year 1, a training program on organizational strengthening and water management and forest management is developed for 400 women and youth leaders (180 women and 66 young women) and implemented through Year 10 in four landscapes; and ii) By year 10, at least 60 women leaders and 80 young people belonging to organized groups will be strengthened in four landscapes for making decisions associated with water management and forest management.

1.2.2.d Strategy designed and implemented starting in year 2 to make visible the groups of young people and women in each landscape is implemented to the communication strategy.
Communication strategy will be made gender and culturally responsive.

1.2.2.e.i) By year 2, a training program is developed on gender responsive and socially inclusive climate actions for departmental and municipal institutions and implemented through year 5; and ii) In year 6, at least three (3) departmental and municipal institutions in charge of gender have linked the groups of women and youth identified in each landscape to their landscape management.

1.2.2.f 4 traditional indigenous authorities of the SNSM and at least 3 Afro-descendent and peasant community organizations strengthen their own traditional knowledge systems associated with land management through support for the creation of spaces for the transmission of traditional knowledge.

1.2.2.g 4 annual spaces for the exchange of knowledge and know-how, between the different peasant, Afro-descendant and local communities and institutions, in relation to the themes associated with the integral management of water resources, forest ecosystems and their relationship with connectivity beginning in year 2 for 6 years.

1.2.2.h. Design and implement a training module (theoretical-practical) to strengthen the capacities of CARs, National Parks and community organizations to address land conflicts associated with water management and forest management.

Output 1.3. Increased investment of revenues from royalties in targeted landscapes for improved and sustainable climate-informed land and water use

Activity 1.3.1. Improve access and revenue generation of royalties (regalias) to climate responsive planning and development within the project landscapes

161. To ensure the financial sustainability of project outcomes in protected areas and surrounding landscapes there is a need to shift the destination of government funds and resources to climate-responsive planning and development and to enhance access of regional and local stakeholder, including territorial entities and Indigenous People and Local Communities (IPLCs), to relevant funding sources. To this end, eleven (11) financial mechanisms (Environmental offsets, Public-private partnerships, Environmental toll surcharge, Carbon tax, Royalties, Pro-parques stamp, Compulsory investment of 1% (Article 111), Water use rate, Impossibility of collecting property tax in Protected Areas, Power Sector Transfers, Impossibility of collecting property tax in collective territories) were analyzed in a multi-criteria prioritization exercise that took into account legal and institutional elements, ease of implementation and scalability, among others. These instruments were selected from a range of national instruments with potential to contribute to the program objectives.

162. The General System of Royalties (SGR) mechanism received highest scores among the analyzed mechanisms, due to the magnitude of available and untapped resources, the existence of a legal framework to access these resources for environmental and climate purposes by different project stakeholders, its potential for scalability and replicability across the four landscapes and the fact that resources would not be diverted from other purposes, such as sustainable development.

163. The SGR was established in 1991, but has been recently modified by two legal reforms (Law 1530 of 2012 and Law 2056 of 2020) to decentralize and distribute the resources obtained through the exploitation of non-renewable natural resources. The latest reform establishes that five percent of royalties resources are mobilized towards environmental and sustainable development investment projects. The different categories of investment projects to which royalties can be allocated are environment and sustainable development, science, technology and innovation focused on environmental issues, and local environmental priorities. Since the 2020 reform of royalties' allocation regulations and governance, the distribution of resources for environmental investment projects will be financed according to the National Strategy for Strategic Environmental Areas, which is in the formulation process. Furthermore, while the government of Colombia enacted a new decree (Decree 513 of 2020) to establish that SGR resources may be mobilized to fund actions and investment projects to mitigate COVID-19 impacts within the regions, this is not anticipated to affect the project, as the first investment project financed with SGR resources will be mobilized by year 4.

164. In order to enhance access to this funding, there is a need for a broad institutional framework at central, regional, and local levels that requires territorial entities to interact with each other and have strong capacity in the design, execution, and fulfillment of large-scale projects. Current barriers to accessing royalties include the lack of capacities to formulate projects and to review calls for proposals considering the allocations of the SGR: Capacity building in terms of methodology, technical assistance for structuring, and formulation and presentation of projects will allow for the creation of alliances with a broader scope and enable the different eligible entities to access funding allocated to them.

165. According to the projections and due to the location of large extractive companies in the Caribbean Region, the largest potential for mobilization of royalty payments for environmental investment projects is in this region. Therefore, the capacity building strategy for structuring environmental investment projects will begin with this landscape and will be replicated across the other priority landscapes subsequently. Lessons learned will be made available to further enable scaling and replication in other municipalities, departments and environmental authorities in Colombia While the project does not intend to shift allocation patterns of local environmental allocations, the support provided by the project aims to increase the overall number of projects presented and approved under the environmental allocations and will focus on municipalities with greatest needs for additional funding to implement priority activities to address climate change and drivers of deforestation. By creating guidelines and capacity building programs, that may be replicated in other municipalities, departments and environmental authorities, and enable investment in sustainable practices, climate-resilient measures, and improvement of livelihoods, this activity supports national planning instruments and regulations that establish royalties as the public financial instrument for supporting the national development plan.

166. The subactivities enumerated below will generate the enabling conditions and enhance cooperation and working relationships between the various actors in the landscapes needed to expand access to royalties (e.g., territorial actors, project developers, local communities and environmental authorities) and to increase funding from royalties towards effective landscape management, improve livelihoods, and reduce deforestation and impact on freshwater resources, all of which will contribute to climate resilience. Work under this activity will take place in four mosaics: Caribbean, Andes, Orinoco Transition and Amazon.

167. The key deliverables from this activity will be to provide key inputs to the National Strategy for Strategic Environmental Areas with the aim to include considerations on climate change—both drivers of land use change and deforestation, and the impacts and risks outlined in B.1 in project priority landscapes; and training of territorial entities and IPLC to structure investment projects to be financed by royalties, with at least six proposals by municipal authorities, CARs, and departments for royalty payments submitted by the end of the project.

168. Patrimonio Natural will implement this activity as EE considering their experience regarding financial instruments and will work with the different institutions involved including MinAmbiente, the Regional Autonomous Corporations; municipalities; Indigenous, Afro-Colombian, Raizales, and Palenqueras Communities; the National Hydrocarbons Agency (ANH); the National Mining Agency; the National Planning Department; Colciencias; and the Collegiate Bodies for Administration and Decision-making (OCAD). The Ministry of Environment will be the primary beneficiary because its National Strategy has not yet been developed, and the program can provide climate change and adaptation inputs to build a sustainable landscape management approach. Specific outputs and objectives of this activity are described under its sub-activities below.

1.3.1.a. Work with the Ministry of Environment to include of climate change priorities in the National Strategy for Strategic Environmental Areas emphasizing the importance of climate-informed management of targeted landscapes.

169. This sub-activity will also engage with the National Planning Department (as part of the board of the project), to include the priority landscapes and strategies to address drivers of land use change and deforestation and specific prioritized climate change impacts and risks (as identified in B.1, including increasing water scarcity and drought, rainfall extremes, increasing variability, etc), in the National Strategy for Strategic Environmental Areas**.**

1.3.1.b Build capacity of municipalities, departments, and regional environmental authorities to understand and avail of their legal rights to access royalty revenues for effective actions and provide technical assistance to develop and present project proposals linked to climate-informed landscapes management to be funded by the SGR.

170. This sub-activity will focus on building the capacity of municipalities, departments, and regional environmental authorities to understand and avail of their legal rights to access royalty revenues for effective actions, and providing technical assistance to develop and present project proposals linked to climate-informed landscapes management to be funded by the SGR, and to structure, formulate, and present projects as funding proposals. Indigenous and local communities' need training to understand legislative changes and new requirements and source distributions in the SGR for them to access these funds. Moreover, there is a lack of capacity in project formulation, which requires technical assistance in the following areas: 1) to identify calls for proposals for projects aligned with local development and environmental management plans and 2) to structure projects explicitly designed to address the priority climate change impacts and risks that meet the selecting bodies requirements. This technical assistance and capacity building will help ensure that investment projects will meet climate resilient and sustainable development criteria that reduce community sensitivity and increase their adaptive capacity and contribute to local development and sustainable management of ecosystems to deliver EbA benefits.

1.3.1.c. Develop partnering arrangements between IPLC authorities, environmental authorities and eligible municipal and regional authorities to submit joint funding proposals for improved climate-informed management of targeted landscapes.

171. Sub-acitivty 1.3.1.c includes the development of partnering arrangements between IPLC authorities, environmental authorities, and eligible municipal and regional authorities to submit joint funding proposals for improved climate-informed management of targeted landscapes. Ethnic groups may be unaware of the new differential approach to the reform of the SGR, as a result of which they will now be able to formulate and present investment projects enhance financial resources to municipalities with less investment to access SGR resources and execute projects aligned with their planning instruments. The development of partnering arrangements and a communication methodology and strategy to disclose the benefits and opportunities of environmental investment projects will help

unlock financial resources for sustainable development projects aligned with IPLC planning instrument objectives and effective landscape management.

Component 2. PARTICIPATORY MONITORING SYSTEMS GENERATE CLIMATE INFORMATION USED FOR IMPROVED DECISION-MAKING IN TERRITORIAL PLANNING

Output 2.1 Participatory monitoring systems established by national and regional environmental authorities generate climate-relevant data needed for improved decision-making.

172. A solidly designed network of data collection stations will be established to expand the collection of locally relevant climate data that complement national data networks.

Activity 2.1.1 Expand the coverage of hydro-meteorological data collection for improved management of targeted landscapes (including protected areas) and affected vulnerable populations

173. One of the challenges for monitoring climate change and its impacts is the absence or poor coverage of weather stations. Based on the official stations network that is currently managed by IDEAM and overlap with the implementation sites that were identified for the installation of new stations, this activity will provide the equipment that will generate information complementary to the existing system at the regional and local levels.[106,107]

174. Patrimonio Natural will implement this activity as EE. The installation of the stations will be carried out in coordination between the meteorological authority at the national level (IDEAM) and the environmental authorities at the regional and local level (PNN and CARs). Patrimonio Natural will acquire the equipment for the stations and will oversee the logistics for their implementation. For the purchase and installation, Patrimonio's procurement protocols will be followed, choosing the most cost-effective option considering the technical specifications established by IDEAM and the logistical coordination with regional and local authorities needed for installation. Specific outputs and objectives of this activity are described under its sub-activities below.

2.1.1.a Install weather stations in prioritized sites.

2.1.1.b Install water gauges in prioritized sites.

175. Six new water gauge stations will be installed within early warning monitoring initiatives in six hydrographic river basins: Chinchiná, Amaime, upper Guatiquia, upper Guayuriba, Fundación, and Seco.

2.1.1.c. Develop standard processes for local monitoring teams about the capture and analysis of bioclimatic information and adaptation measures for implementation places.

176. Data collection protocols will follow national standards and be defined at the local level and exchanged with the participating institutions (see table below). The generated information standards will be validated by a technical team that together with the local monitoring groups will form work teams.

Table 6: Participating institutions in data collection.

Watershed	Environmental Authorities	Local and Regional Governments
Chinchiná	Corpocaldas, PNN	Manizales & Villamaria Aqueduct Company Department of Caldas
Amaime/Cerritos	CVC, PNN	Palmira Acueduct Company
Fundación, Aracataca	Corpamag, PNN	Mayor's Office of Aracataca y Fundación.
Rio Seco	Corpocesar	Kaukamo indigenous community, Mayor's Office of Valledupar

[106] IDEAM, Protocolo para el monitoreo y seguimiento del agua. 2007. http://documentacion.ideam.gov.co/openbiblio/bvirtual/021172/ProtocoloparaelmonitoreoyseguimientodelaguA.pdf

[107] IDEAM, Monitoreo a los ciclos de agua y carbono en ecosistemas de alta montaña, Caso Piloto, Proyecto Nacional de adaptación al cambio climático - INAP- componente B, IDEAM y Conservación Internacional, Bogotá, 2011. http://documentacion.ideam.gov.co/openbiblio/bvirtual/022085/Monitoreoalosciclosdeaguaycarbonoenecosistemasdealtamontana.pdf

Alto Guatiquia	Corpoguavio, PNN	Mayor's Office of El Calvario, San Juanito
Alto Guayuriba	Corpoguavio, PNN	Mayor's Office of Fomeque, Choachi, La Calera

2.1.1.d. Prepare biannual output reports by territorial entities and disaster response entities of data collected as part of the alert intervention exercises.

177. The expansion of the hydro-climatological stations network and the formation of early warning monitoring groups will generate information about climate and its impacts. Biannual reports will be generated by territorial entities and disaster response entities based on the data collected as part of the alert intervention exercises. With this information, the communities that inhabit the prioritized watersheds around protected areas will have better knowledge of what to do during extreme events triggered by the weather and thus improve their capacity for adaptation and reduce their vulnerability and risk. At the same time, the protected areas management team will have information about the local climate, and will establish management measures to avoid impacts on the ecosystem services and the benefits they provide to the inhabitants of the hydrographic basins.

2.1.1.e. Establish 6 environmental early warning systems in basins Chinchiná, Amaime/Cerritos, Fundación Aracataca, Rio Seco, Upper Guatiquia, Upper Guayuriba.

178. Hydrological stations and a local monitoring structure for early warnings will be established for the reduction of impacts due to hydro-climatic phenomena (e.g., extreme rain, flooding, fires) related to climatic variability. The early warnings will be transmitted through appropriate communication technologies, including mobile phone-based messaging systems and radio.

2.1.1.f. Train 6 local community teams and 30 staff of public institutions (Corpomag, Corpocesar, Corpocaldas, CVC, Corpoguavio, PNN) in the measurement of bioclimatic variables and participatory monitoring.

179. Local monitoring groups in each basin, made up of at least 25 households, will be provided with a basic monitoring set consisting of a rain gauge, thermometer, GPS, data collection boards, stationery, markers, radio/mobile communication devices, distinctive vest, caps, and boots, etc. This activity will provide sex-dissagregated information and usage of the same to inform landscapes management. The local early warning monitoring groups will be chosen based on their location within the hydrographic basins, taking into account the selection of those with the greatest vulnerability and the most interest in participating in this initiative. The composition of the local early warning monitoring groups will ensure equitable access to men and women and be implemented in agreement with the basin council, the environmental authority and the water supply companies related to the basin.

2.1.1.g. Independent evaluation of training delivery in years 3 and 7.

Activity 2.1.2 Collect climate-relevant parameters from the interaction between remote sensing data and field work in high elevation wetlands (paramos) and forests and integrate it into local and national monitoring and evaluation systems

180. This activity is designed to generate relevant information for the protected area system and corridors on forest ecosystems, paramos and mangroves related to carbon storage, carbon sinks, as well as monitoring carbon stocks and carbon sequestered through restoration and rehabilitation activities, including through productive systems. Data will be collected that complements and capitalizes on existing data produced both at national and local levels to improve assessment of climate impacts and optimal approaches to mitigation and adaptation. This activity will be closely coordinated with the national forest inventory (NFI) and GHG inventory led by IDEAM and will follow all of the protocols as defined by IDEAM for carbon monitoring. This activity will also integrate monitoring activities in protected areas related to the effects of climate change on biodiversity and ecosystem services provision. The goal is to contribute to generate better emissions, removal factors as well as improved land use-land cover data that results in better GHG data used to assess both project impacts as well as inform the national GHG.

181. Information on carbon storage and its increase rates are key to estimate mitigation impacts of the project. Therefore, this information will contribute to estimating the real contributions of both the protected areas and their areas of influence and the additionality of the project.

182. Patrimonio Natural will implement this activity as EE to support IDEAM (lead of the National Forest Inventory) and in consultation with research institutes like the Humboldt Institute (IAVH), the Amazon Research Institute Sinchi, and INVERMAR as appropriate in each mosaic. Work agreements will be established between Patrimonio Natural and the environmental authorities such as PNN and the regional environmental authorities (Corpocesar, Corpamag, Corpoguavio, Cormacarena, CDA, Corpocaldas, Cortolima, CVC) to establish or strengthen monitoring teams in protected areas. In addition, an agreement will be established between Patrimonio and IDEAM (ecosystems subdivision) to support and train local teams in carbon and climate change impact monitoring.[108,109] Specific outputs and objectives of this activity are described under its sub-activities below.

2.1.2.a. Establish partnerships with existing local monitoring initiatives to form community-based monitoring teams (including protected areas).

183. This sub-activity will entail establishing partnerships with existing local monitoring initiatives where these exist, to form community-based monitoring teams. The existence of monitoring activities in the implementation sites generates the need to build on those experiences. For example, at the level of protected areas it is common to find monitoring programs and equipment, which will be complemented with technical and logistical aspects to monitor the impacts of climate on ecosystems and understand the attributes of carbon storage in them.

2.1.2.b. Establish new initiatives with local organizations to form community-based monitoring teams (including protected areas).

184. In those areas that do not have pre-existing monitoring programs, new initiatives with local organizations will be needed to establish work teams, especially at the level of the regional environmental authorities. In order to ensure proper articulation and flow of information between local and national levels, MOUs will be developed to share information and strengthen capacities of local monitoring teams. Once the structure and flow of information have been established at different levels, the monitoring methodologies will be reviewed, and, if needed, adapted to facilitate data collection in the field based on the different contexts in each of the regions. This activity will replicate and amplify a successful pilot program (PFGTI) funded by NORAD NICFI in the Amazon.[110] At the same time these monitoring activities will complement current projects supported by bilateral and multilateral agreements with the national government, such as the suite of projects under the umbrella of the Amazon Vision Program (REDD early movers - REM; FAO GCF-REDD+ Result-based Payment, and GEF 5,6,7 initiatives). Monitoring activities will apply similar protocols and will generate information for the specific places outside the Amazon and in the long term will generate enabling conditions to future sustainability.

2.1.2.c. Train local teams in climate and biodiversity data collection and interpretation.

185. Local teams will be trained in climate and biodiversity data collection and in data interpretation since this activity is designed to generate capacity and autonomy in the local teams. Each monitoring group will be equipped with instruments and logistical support for the adequate implementation of the monitoring activities. Participants in the monitoring teams will be based on the institutional arrangements at each site. Staff from National Parks, research institutes, and regional environmental authorities will participate in those areas under their jurisdiction. The local community groups that will participate in this monitoring will be part of the communities that are involved in restoration or rehabilitation activities to facilitate coherence and integrity in the implementation of the project. Emphasis will be placed on the participation of women and youth in conditions of vulnerability to climate change. These teams will be trained in climate and biodiversity data collection and interpretation annually.

2.1.2.d Train local teams in data collection station management and maintenance.

2.1.2.e. Define organizational structures for initiatives and framework for participation in national monitoring processes.

186. Organization structures and data standards will be defined by year three.

[108] IDEAM, 2018. Manual de Campo Inventario Forestal Nacional Colombia. Colombia. Bogotá, 2018. 160 Páginas. http://181.225.72.78/archivosSIAC/recursosSiac/img/segundo_seminario_deforestacion_2017/01_MANUALES/Manual%20del%20IFN_FINAL%2020180531.pdf

[109] PEÑA M.A., RAMIREZ S., PHILLIPS J.F., CABRERA E., CÓRDOBA N. , CARREÑO L.M. 2014. Manual de campo para el monitoreo de carbono en bosques naturales. IDEAM. Bogotá D.C., Colombia. 64 pp

[110] https://wwf.panda.org/wwf_news/successes/?326676/Bringing-more-voices-to-Indigenous-territorial-governance, https://wwf.panda.org/wwf_news/?522271/Protecting-our-partners-in-a-pandemic, https://wwf.panda.org/wwf_news/?333513/Nuevos-lideres-indigenas-en-el-Putumayo

2.1.2.f. Define data standards and flow protocols.

187. Data standards and flow protocols will be defined by year three.

2.1.2.g. Design and implement local carbon plot network (including participatory team coordination).

188. The design and implementation of the local carbon plot network will be done in coordination with the national forest inventory with IDEAM. This will require review of the current national carbon sampling network and definition of priorities based on current information gaps and the location of the implementation sites. 75 local carbon parcels implemented by year three.

2.1.2.h. Environmental authorities, municipalities, and research institutions use information collected towards MRV process (reference level and reports at national level).

189. The data collected from the plots will contribute to Colombia's MRV process at the local and regional scale and will be communicated to decision-makers in accessible formats to incorporate climate change into territorial management and development plans and encourage climate-smart decision-making.

2.1.2.i. Produce output reports (brochures) for environmental authorities, municipalities, and research institutions with summaries of interpretation of climate data, as well as adaptation and mitigation action plans.

190. All the information that is generated at the local level about climate and its impacts on production in the corridors will be integrated into the regional climate dialogues and roundtables with the SIRAPs and NRCCs described under Output 1.1. Conclusions and recommendations resulting from climate analysis will thus be reflected in the territorial planning instruments. To act upon these recommendations, regional forums will be held annually and meetings with regional coordination bodies such as the Regional Climate Change Nodes and the SIRAPs and SIDAP.

2.1.2.j. Independent evaluation of training delivery in years 5 and 9.

2.1.2.k Generate agroclimatic calendars by productive activities in implementation sites to identify and take autonomous and planned adaptation measures (aligned with integration under 1.1.3a).

191. At the local level, the impacts of climate variability and climate change affect productive activities. To identify and describe the main characteristics of the productive systems in relation to key climate variables, participatory exercises will be carried out in seven corridors to identify the mainland uses and how they depend on climate over an annual timeline. The resulting agroclimatic calendars will be an important resource for monitoring climate change impacts on agriculture in the following years and for taking relevant adaptation measures based on those impacts. The development of agroclimatic calendars (part of necessary climate information and related to work activity 3.2.1 on productive systems) will be delivered by Ecohabitat and local community groups in each landscape. The data collected for the agroclimatic calendars will be used to inform the land use planning instruments described in Activity 1.1.3 above. Ecohabitat has extensive experience developing farm-level plans to combat food insecurity through adaptation to climate change and climate variability in other regions of Colombia. The generation of agroclimatic calendars will make it possible for local communities to influence land use plans in the medium (four years) and long-term (12 years), aligned with the plans developed by municipalities and departments every four years and the territorial land use plans developed every 12 years. The information generated will improve the adaptive capacity of local communities that are vulnerable to climate change. Women, since they carry out the majority of work on the farms, will be integrally involved in the development of the agroclimatic calendars. They will also be important beneficiaries to the extent that the adaptation measures undertaken improve food security for their families.

Output 2.2. Improved application and use of climate information in territorial planning and local decision-making to reduce carbon emissions and strengthen adaptive capacity

Activity 2.2.1 Incorporate landscape- and local-level data into national systems for climate monitoring and evaluation (e.g., SMByC, SIM-SINAP, SIIVRA)

192. An effective monitoring system should create articulation between the Monitoring Information System of the National Protected Areas System (SIM-SINAP),[111] the Forest and Carbon Monitoring System (SMByC),[112] and the

[111] https://www.parquesnacionales.gov.co/portal/wp-content/uploads/2013/08/abc-del-Sistema-Nacional-de-Areas-Protegidas-SINAP.pdf
[112] http://smbyc.ideam.gov.co/MonitoreoBC-WEB/reg/indexLogOn.jsp

Integrating Information System on Vulnerability, Risk and Adaptation (SIIVRA).[113] Even though this is mandated, the reality is that agencies lack the technical capacities to run this articulation. This is even more challenging as agencies differ by region and mandates overlap in some instances. This affects information flows in both directions: for example, from IDEAM towards the regional authorities to make use of the SMByC data in their regional management, and from the regional authorities in generating local data to calibrate an improve the MRV process. This activity will therefore contribute to establish formal communication channels to exchange information between monitoring systems managed by different institutions (IDEAM, PNN, UNGPD, CAR). It will also strengthen the national forest and carbon monitoring system (SMByC) in the development of deforestation alerts at the local and regional level, thereby improving degradation monitoring and participatory restoration.

193. This activity will ensure that the information generated under Output 2.1 is integrated into the national systems and therefore can be used to report the achievements in mitigation and adaptation at the national level. WWF Colombia will implement this activity as EE to support IDEAM, PNN, UNGPD, and the CARs. The key deliverable from this activity will be a strengthened SMByC that produces annual and quarterly deforestation technical reports that incorporate landscape and local level data by virtue of its interaction with local and regional teams. Specific outputs and objectives of this activity are described under its sub-activities below.

2.2.1.a Strengthen the national forest and carbon monitoring system (SMByC) in the development of deforestation alerts at the local and regional level, degradation monitoring and participatory restoration.

2.2.1.b. Formal communication channels established to exchange information between institutions (IDEAM, National Park System, UNGPD, CAR).

2.2.1.c Independent evaluation of interinstitutional information exchange.

Activity 2.2.2 Introduce improved systems for dissemination of usable climate information to climate vulnerable populations for improved decision-making (e.g., on precipitation or temperature patterns)

194. This activity will improve the existing platforms for the dissemination of information for monitoring protected areas, including the monitoring of key ecosystems for carbon storage such as forests, paramos, and mangroves. The dissemination of information on the impacts of climate change can be one of the most important enabling conditions to behavior change and the inclusion of these elements in land use planning.

195. WWF Colombia will implement this activity as EE through working agreements with PNN and IDEAM. WWF Colombia will provide the resources to improve the aforementioned platforms, both for software and hardware updates and specialized technical assistance for their maintenance. The key deliverables of this activity will be improved SIM-SINAP, SMByC, and SIIVRA platforms that are used for dissemination of information, networks of climate-informed leaders that are empowered at the landscape level. Specific outputs and objectives of this activity are described under its sub-activities below.

2.2.2.a Consultation and information dissemination platforms in operation, integrating reports derived from monitoring and early warning systems.

196. This sub-activity will improve the SIM-SINAP, SMByC, and SIIVRA platforms so that information on the impacts of climate change, integrating reports derived from local monitoring and early warning systems, can be readily accessed and disseminated.

2.2.2.b Design and develop didactic materials for training and education in climate issues, and good practices.

197. Sub-activity 2.2.b will support the design and development of training and educational materials covering climate issues, create and exchange stories that show the importance and urgency of taking actions that reduce climate vulnerability, and disseminate best practices.

2.2.2.c Generate and exchange stories that show the importance and urgency of taking actions that reduce climate vulnerability.

[113] https://www.unodc.org/documents/colombia/2013/Agosto/DA2013/MATERIAL-DIFUSION-No.3-ADAPTACION.pdf

198. Lessons learned from the use of climate information generated in the monitoring will be collected throughout the intervention area. Exchange programs will be organized and carried out among community groups and institutions to enhance a mutual learning process and to create networks of climate-informed leaders. Human interest stories with gender and culturally responsive approaches will be collected to better illustrate impacts of climate vulnerability and resilience.

2.2.2.d Design and implement a knowledge management strategy and share similar lessons from the use of information generated through monitoring.

199. A knowledge management system developed to share lessons learned from the use of climate information generated in the monitoring together with an analysis of the strengths and weaknesses of the use of the information.

Component 3. LAND MANAGEMENT IMPROVED AND RESTORATION IMPLEMENTED TO REDUCE CARBON EMISSIONS AND STRENGTHEN ADAPTIVE CAPACITY OF VULNERABLE COMMUNITIES

Output 3.1 Management of protected areas improved to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits

200. Colombia's National System of Protected Areas (SINAP after its Spanish name) covers 31,157,886 hectares (15% of the Nation's territory) and includes community owned, private, and public protected areas, local, regional, and national areas. As discussed in Section B.1, the protected areas within SINAP conserve vast stocks of carbon and also serve as important carbon sinks. Those protected areas directly under management of PNN alone conserve 12 million hectares of forests, which correspond to a carbon reservoir of 6,343 million t CO_2e.[114] representing up to 24.2% of national carbon stocks. In addition to their importance for carbon, SINAP areas provide critical water regulation and provisioning services for urban populations in Colombia. providing drinking water for more than 25 million people in cities such as Bogotá, Cali, Manizales, Pereira, Armenia, Ibagué, Neiva, Santa Marta, and Valledupar. Despite the current geographic and ecological coverage of the SINAP, the proportion of the natural and cultural patrimony it protects is still insufficient, and a number of significant threats loom. The connectivity of the system is limited, the effectiveness of current management is low, and the impacts of future climate change and variability have not been adequately integrated into protected area planning and management to minimize the impacts of climate change on ecosystem service provision.

201. In addition to the National Parks managed by PNN, National Protective Forest Reserves and National Integrated Management Districts are also part of the national system. Although they are formally under the jurisdiction of the Ministry of Environment and Sustainable Development, their management is delegated to the Regional Autonomous Corporations (CARs). Regional protected areas (e.g., Regional Park, Regional Integrated Management District, Regional Protective Regional Forest Reserve, Soil Conservation District) are also under the jurisdiction of the CARs. Finally, there are a large number of private reserves within SINAP in Colombia, especially in the Andes. These are known as Civil Society Nature Reserves and can be all or part of a private property that conserves a natural ecosystem and is voluntarily managed by the owner for purposes of conservation and sustainable use. These reserves are mostly small in size but can protect important ecological features such as endemic species, wetlands, or springs.

Activity 3.1.1 Complete, in a socially responsible manner, the designation and gazettement of 1 new protected area (San Lucas Mountains) covering 470,856 hectares to reduce deforestation trends and improve forest connectivity

202. When weighing the biological criteria, the pressures, and the current socioeconomic context of the San Lucas Mountains area; and through lengthy six-year dialogue and collective construction with indigenous peoples, local community organizations and SINAP, including the evaluation of alternative management regimes and approaches, the category of National Integrated Management District (DNMI) was identified as the most appropriate designation for the new area given its management and use needs, including addressing significant highly environmentally destructive and illegal activities like gold mining. This category is equivalent to category VI in the IUCN classification of protected areas. The objective of these types of areas directly relied upon by indigenous and local communities for ecosystem services

[114] Sistema de Parques Nacionales Naturales 2020. Atlas de Carbono en áreas protegidas del sistema de parques nacionales naturales – SPNN. Subdirección de sostenibilidad y negocios ambientales. Bogotá.

is "to protect natural ecosystems and to use natural resources in a sustainable way, when conservation and sustainable use can mutually benefit."

203. Because the area will be a multiple-use category, the restrictions established from the zoning and the use regime will be generated in agreement with the local communities. Use agreements will be made for agricultural and (legal) mining activities with the participation of the Ministries of Environment, Agriculture, Mines and Defense. The intangible areas, that is, those with the greatest restrictions, have been selected with all the local communities in such a way as to ensure non-restriction of their rights of use.

204. The areas for the declaration overlap both indigenous peoples and local communities that inhabit and depend on the forests and natural resources, requiring joint management agreements with SINAP and local communities—as established by both national legislation (Resolution 1125 of 2015) and the National Parks Social Participation Policy, 2001. In this sense, this new designation does not result in a restriction of rights, but rather the generation of joint agreements for the management of the proposed areas, actually enshrining use rights (where no property right previously existed) for community-preferred conservation-based local livelihoods. This new designation should not, therefore, be thought of as excluding access to natural resources, resulting in maladaptation driven by increased vulnerability.

205. Likewise, if investment projects, use contracts, payments for ecosystem services, or any type of similar financial mechanism is developed for the area, the distribution of benefits will respond to what is proposed jointly with the communities in the management plan, taking into account the criteria of equity of distribution of these benefits among the inhabitants and users of the area.

206. Patrimonio will implement this activity as EE, ensuring gender responsiveness. This key deliverable for this activity is that the San Lucas Mountains is incorporated into SINAP and has the necessary enabling conditions for its operation. The specific products include a technical document to support the declaration of San Lucas as a protected area, including information on climate, connectivity, biodiversity and benefits of nature such as essential water provision and regulation services; a report of the participatory process followed disaggregated by gender, intergenerationality, ethnicity and vulnerable groups; agreements arising from the social dialogue process with local, institutional and sectoral actors; a resolution with the agreement of the declaration; and a safeguards implementation report, including summary of consultations and documentation of FPIC if necessary. Specific outputs and objectives of this activity are described under its sub-activities below.

3.1.1.a Review proposed designation of PAs (completion of proposed boundaries and associated resource use rights and access rights).

207. Under this sub-activity, the proposed designation of the new PA (described above) will be reviewed and a technical report prepared to support the declaration of San Lucas as a new PA. This will include information on climate, connectivity, biodiversity and benefits of nature, and arguments for climate variability.

3.1.1.b Conduct consultations with affected-stakeholders (based on proposal) at community level (FPIC if needed) and government/interagency.

208. Since biotic information is already available, the consultative process will include the following means of dialogue with the communities present in the area:

- space for dialogue between national, regional, and local government institutions and the 11 social organizations in the region to know the current state of the territory, the proposed protected area and agree on a work plan within the framework of the route agreed between the parties;
- development of a work agenda that allows the implementation of a plan aimed at achieving interagency agreement in the territory between the Ministry of Environment and Sustainable Development, Ministry of Mines and Energy, Ministry of Agriculture and Rural Development, Municipal and Departmental Territorial Entities, and Social Organizations;
- design and adjustment of communications materials, with the information of the proposed new area in the San Lucas Mountains and institutional agreements proposed by the National Government to Social Organizations in 2018 to be distributed in the territory to all communities;
- development of prior consultation processes with communities certified by the Ministry of the Interior; and

- an assembly for the socialization of agreements in the territory and support for the decision-making to declare a protected area in the San Lucas Mountains.

3.1.1.c Formal legal gazettement.

209. Once the area is declared and gazetted, the project will provide the enabling conditions for it to have functional management (included in activity 3.1.3 below). PNN will follow the national procedures for declaration and gazettement, acting together with other environmental authorities, complying with applicable law, and creating spaces for dialogue and working together to harmonize and define strategies for implementing the declaratory path. Similarly, PNN has been working with different Ministries: Defense, Agriculture and Rural Development (ANT, ADR, URT, ART), Energy and Mines (ANM), Colombian Institute of Anthropology and History (ICANH), IDEAM and MADS. At the regional level, PNN has developed spaces for dialogue and agreement with the Government of Antioquia, the Government of Bolívar, the Autonomous Regional Corporation of the Center of Antioquia (CORANTIOQUIA), the Regional Autonomous Corporation of the South of Bolívar (CSB), and the mayors of local municipalities. Regarding social actors, PNN has led relationships with social and community organizations present in the territory, among which are: the Peasant Association of the Río Cimitarra Valley - National Agroecological Network (ACVC-RAN), Bagre Communications Colective- Gente y Bosque, Community Foundation for the Protection of the Environment in the San Lucas Mountains and Guamoco (FUNCOPROMAS), Association of Agroecological and Mining Brotherhoods of Guamocó (AHERAMIGUA), Agrominera Federation of the South of Bolívar - (FEDEAGROMISBOL), Agro Association - Minera del Sur de Bolívar (ASAMISSUR), Humanitarian Action Corporation for Coexistence and Peace of Northeast Antioquia (CAHUCOPANA), Agrominera Association of La Marizosa - Guamocó , Association of Rural Agricultural Families of South Bolívar and Antioquia (AFASBA), CIANA - Committee of Integración Agrominera del Nordeste Antioqueño (CIANA), Association of Agro-environmental Victims of Puerto Claver (ASOVIAMCLA).

3.1.1.d Monitoring and evaluation of designation process; including safeguards monitoring.

Activity 3.1.2. Expand Sierra Nevada Santa Marta National Park by an additional 181,753 hectares to reduce deforestation trends, preserve forest connectivity, and protect source waters

210. The proposed expansion of the Sierra Nevada Santa Marta by approximately 181,753 hectares will increase representation of sub-Andean moist forests and tropical dry forests within SINAP and protect headwaters and hydrological services that contribute to agricultural production downstream. There is as yet no definitive proposal of the geographical limits of the expansion, since the proposal is being built jointly with the Arhuaco and Kogui Peoples, based on lengthy dialogues, including the evaluation of alternative management regimes, and the Specific Agreements signed between these peoples and PNN within the framework of the implementation of the route for the declaration of the expansion, including the “Joint Management Plan” between indigenous groups and SINAP.

211. This activity will take place in the southern sector of the Sierra Nevada de Santa Marta National Park (SNSMNP), which is located between the departments of Magdalena, Cesar and La Guajira, in the Colombian Caribbean, in jurisdictions of the municipalities of Ciénaga, San Juan del Cesar, Fundación, Aracataca, Dibulla, Mingueo, Santa Marta, Riohacha, Pueblo Bello, and Valledupar.

212. The initiative to expand SNSMNP, a protected area located in the mountain massif of the Sierra Nevada de Santa Marta (SNSM), arose in the first instance from the need expressed by the Arhuaco and Kogui Indigenous Peoples for the protection of the ancestral territory delimited by the “Black Line” which refers to the original extent of their ancestral territory. The proposed expansion also responds to priorities for the conservation of strategic ecosystems not represented in the current SINAP. It also provides recognition of the traditional management by the indigenous peoples of the Sierra Nevada that has allowed the conservation of the territory and its associated biodiversity. The implementation of the route for the declaration of new protected areas (according to Resolution 1125 of 2015 of the Ministry of the Environment and Sustainable Development), was carried out through joint work between the Kogui-Malayo- Arhuaco Resguardo, the Resguardo Arhuaco de la Sierra, PNN, the Alliance for the Conservation of Biodiversity, Territory and Culture (a public-private initiative made up of WWF Colombia, WCS Colombia, Fundación Mario Santo Domingo and Fundación Grupo Argos), WCS, WWF, and the Natural Wealth Program.

213. The declaration process began with the Kogui and Arhuaco indigenous peoples’ characterization and identification of sacred sites and priority areas for conservation and ancestral management in the proposed territories

for expansion, and their identification and analysis of the biophysical, social and cultural criteria in the area of interest, in joint work with PNN. Based on this work, MADS issued Resolution 504 of 2018, extended through Resolutions 407 of 2019 and 320 of 2020, by which a zone of protection and development of renewable natural resources and the environment was declared and defined in the vicinity of SNSMNP, applying the precautionary principle in an area of about 585,000 hectares. This protection zone frames the area proposed for the expansion of the SNSMNP, as well as other possible complementary designations to be managed regionally and inter- institutionally.

214. The expansion of the protected area is aimed at strengthening the protection of strategic ecosystems critical for carbon sequestration, ecosystem services provision (including biodiversity), and cultural diversity. Under the Colombian legal framework, it will avoid any potential maladaptation associated with the new classification restrictions by permitting the uses that the Indigenous Peoples of the region have made of their ancestral territory for millennia and support the preservation of their cultural practices and the connection of their sacred spaces. The regulations for use of the protected areas are overseen by a joint committee of PNN and Indigenous authorities, also ensuring any unintended consequences of use restrictions are avoided (however unlikely they may be). The regulations recognize that the survival of the Peoples is completely linked to the territory they inhabit and the two-way relationship between territory and being indigenous.

215. The SNSM massif is strategic for the Colombian Caribbean, since there are about 18 main rivers that supply water to three departments: Magdalena, Cesar, and La Guajira. It plays a key role as a climate regulator for the subregion, with influence on the entire Caribbean region. It establishes a clear relationship of water connectivity with the Ciénaga Grande de Santa Marta and the coastal lagoons of La Guajira and with protected areas such as the Tayrona and Salamanca Island National Parks and the Los Flamencos Fauna Sanctuary (PNNC 2015). Climate change and climate variability expected for the SNSM will affect various elements of their biological diversity and their related physicochemical processes, and therefore ecosystem dynamics. These impacts and resultant ecological transformations will in turn affect the provision of ecosystem services. These impacts will include decrease in water flows and biodiversity associated with bodies of water, decrease in water quality, decrease in ice coverage in glaciers, increased susceptibility to fire, effects on crops and diseases, and changes in the patterns of distribution and abundance of many species.

216. The implementation of this activity will follow the guiding principle of the SNSMNP management plan that the management of the protected area be carried out through mechanisms of coordination and shared governance that recognize the competencies and rights of both the PNN and the Indigenous peoples. Two of the strategic objectives of the current management plan are oriented towards the fulfillment of this principle:

- Strategic Objective 1. Consolidate the coordination scheme between PNN and Indigenous Authorities, for the definition of strategies and joint actions aimed at the protection and conservation of the Ancestral Territory of the Iku, Kággaba, Wiwa and Kankuamo peoples, in accordance with the competences of each of the authorities and the principles of governance and ancestral ordering of the original peoples.
- Strategic Objective 3. To jointly strengthen the Indigenous Government in its organizational autonomy, regulatory, environmental and social functions, as well as PNN in fulfillment of its mission; for the protection of the SNSMNP contributing to the holistic management of the Ancestral Territory of the Black Line.

217. Patrimonio will implement this activity as EE. The key deliverables will be a technical document to support the extension of the Sierra Nevada de Santa Marta NP that will include information on climate, connectivity, biodiversity, and the benefits of nature for adaptation to climate variability, A report documenting the prior consultation process, documentation that FPIC was obtained from IPs, and a governmental resolution on the expansion agreement are expected by December 2023. Specific outputs and objectives of this activity are described under its sub-activities below.

3.1.2.a Review proposed designation of PAs (completion of proposed boundaries and associated resource use rights and access rights).

218. Under this sub-activity, the proposed designation of expanding Sierra Nevada de Santa Marta PNN (described above) will be reviewed and a technical report prepared to support the declaration. This will include information on climate, connectivity, biodiversity and benefits of nature, and arguments for climate variability.

3.1.2.b Conduct consultations with affected-stakeholders (based on proposal) at community level (FPIC if needed) and government/interagency.

219. The activity will support review of proposed boundaries for the expansion and associated resource use rights and access rights, consultations with affected stakeholders (based on the proposal) at community level including FPIC, and at the government/interagency level. PNN will provide spaces for dialogue and coordination with the following actors:

Table 7. Stakeholders in the expansion of Sierra Nevada Santa Marta National Park

Stakeholder Group	Stakeholder Name
Indigenous Organizations	• Gonawindúa Tayrona Organization (OGT) • Tayrona Indigenous Confederation (CIT) Iku People (Arhuaco) • Yugumaiun Bunkwanarrwa Tayrona Indigenous Organization (OWYBT) (Wiwas people Cesar and La Guajira sector) • Kankuama Indigenous Organization (OIK) • Wiwa Golkushe Tayrona Organization (Wiwa village of Magdalena) • Territorial Council of Cabildos • Resguardo Arhuaco de la Sierra • Resguardo Businchama • Resguardo Kogui- Malayo- Arhuaco • Resguardo Kankuamo
National Institutions	• National Mining Agency • Ministry of the Interior - General Directorate of Indigenous Affairs • National Land Agency • International cooperation (AECID, KFW, USAID, European Union, UN) • Universities • Alexander von Humboldt Research Institute (IAvH)
Regional and Local Institutions	• Departments of Magdalena, César and La Guajira • Regional Autonomous Corporations (Corpamag, Corpocesar and Corpoguajira) • Municipal Mayor's Offices (Aracataca and Fundación, Valledupar, Pueblo Bello, El Copey) • Municipal Councils (Aracataca and Fundación, Valledupar, Pueblo Bello, El Copey).
Associations	• César's Coffee Growers Committee • Emdupar • Aguas de Caesar • Cesar's competitiveness commission • Asbama • Fedepalma

3.1.2.c Formal legal gazettement.

220. Formal legal gazettement of the expansion is expected by December 2023. This will include Resolution with the extension agreement to incorporate an additional 181,753 hectares to Sierra Nevada de Santa Marta PNN by December 2023.

3.1.2.d Socialization of new plan.

221. Communication products will be developed to inform local stakeholders of the PA expansion plan once the formal legal gazettement has occurred.

3.1.2.e Monitoring and evaluation of designation process; including safeguards monitoring.

Activity 3.1.3 Support the design and adoption of climate-responsive management measures for the targeted landscapes

222. Many ecosystems, both natural and managed, can support mitigation and adaptation to climate change. But protected areas have advantages over other ways of managing ecosystems, because of the clarity of their legal status and governance, and their established management structures including regular monitoring for effectiveness. This activity is aimed at strengthening the management planning of protected areas from a climate variability approach,

contributing to the achievement of effective management at both the functional and structural levels. Two areas will be brought to the functional level, including San Lucas once it has been declared, and a regional conservation area in Guaviare department that is expected to be declared in 2022.

223. Functional management in these two PAs (Sierra Nevada Santa Marta National Park and San Lucas) will entail participatory and inclusive construction of the management plan with protected area administrators, work teams, and communities, including how plans must be updated to respond to the current impacts and future risks of climate change under RCP 4.5, as identified in B1 and more fully in the feasibility study; implementation of the governance scheme for administration and management; participatory design of protection, surveillance, and control protocols; capacity building to start planning the management of protected areas; and development and implementation of participatory monitoring schemes (described in Component 2)

224. 31 National and Regional Conservation Areas in four mosaics (see Table 8) will be brought to a structural level of management, as well as 32 private reserves.[115] Structural management is understood as a preliminary step to effective management where protected areas are strengthened through the following interventions: a) improved technical capacities, b) management plans, c) control and surveillance, d) restoration, and e) rehabilitation. The protected areas contemplated at this level are listed below. Each of these components will be co-designed through the participatory process outlined above to explicitly address the priority climate change impacts and future risks identified for each mosaic under RCP 4.5.

Table 8. Protected areas to be brought to a structural level of management.

Mosaic	Scale	Protected area
Caribbean	*National*	1. PNN Sierra Nevada de Santa Marta 2. SFF Ciénaga Grande de Santa Marta
	Regional	3. PNR Los Besotes
Central Andes	*National*	4. PNN Las Hermosas 5. PNN Los Nevados 6. RFPN Rio Amaime 7. RFPN Ríos Zabaletas and Cerrito 8. RFPN Rios Blanco y Negro
	Regional	9. DCS Guacas Rosario 10. RFPR La Marina 11. RFPR Torre Quatro 12. RFPR Planalto 13. RFPR La Albania y la Esmeralda 14. RFPR Río Blanco and Quebrada Olivares 15. RFPR Los Bosques de la Chec 16. PNR Del Nima 17. DRMI Páramos Las Domínguez, Pan de Azúcar and Valle Bonito
Orinoco Transition	*National*	18. PNN Chingaza 19. PNN Sierra de la Macarena 20. RFPN Serranía La Lindosa- Angosturas II 21. RFPN Paramo El Atravesado 22. RFPN Rio Rucio
	Regional	23. RFPR Quebrada Honda 24. RFPR Sabinas 25. RFPR Hoya Hernando 26. RFPR Siberia 27. RFPR Pozo Azul 28. RFPR La Vitilia La Palma 29. RFPR Jerico Lebanon and Sevastopol

[115] San Lucas, as a newly created protected area, will be brought to a lower, functional level of management within this project.

Amazon	*National*	30. PNN Serranía de Chiribiquete 31. RFP Capricho y Mirolindo

225. Patrimonio implement this activity as EE. This activity supports Colombia's National Development Plan, the SINAP 2020-2030 policy, Colombia's NDC, Colombia's National Adaptation Plan, Restoration Strategy, and the National Policy for Control of Deforestation and Sustainable Management of Forests (December 2020). The key deliverables from this activity will be updated management plans for 31 public protected areas and 32 private reserves that effectively incorporate climate change data and response plans with a gender and intergenerational approach, following the guidelines of the National Council for Protected Areas (CONAP). By Year ten, each of the 63 protected areas will demonstrate improvement in the effectiveness variables prioritized by the project according to the Protected Areas Management Effectiveness tool (EMAP) approved by CONAP. Specific outputs and objectives of this activity are described under its sub-activities below.

Technical Capacities

3.1.3.a Build capacities in protected area administrators, work teams and communities in management planning based on the implementation of the SINAP education and training plan created for this purpose.

226. According to the diagnostic made for the construction of the SINAP 2021-2030 policy, one of the barriers to achieve the effective management of protected areas lies in the weakness of the capacities and skills of protected area manager and other strategic actors to manage based on standards that are cost-effective and contribute to generating and evaluating the impact that management has on the provision of ecosystem services. As noted in B2, another critical barrier is the lack of capacity to respond to and plan for the impacts of climate change in protected areas. To eliminate these barriers, the project partners will build capacities in protected area administrators, work teams, and communities in management planning based on the implementation of the SINAP education and training plan created for this purpose. The capacity building activities will include women, youth and representatives from minority groups.

3.1.3.b Develop and implement a comprehensive control and surveillance training program through participatory design with delegates from environmental authorities and community actors (including indigenous communities) from each mosaic including the 31 public protected areas to reduce deforestation trends and monitor restoration, ecological integrity, and impacts of climate change.

227. Project partners will also will develop and implement a comprehensive control and surveillance training program through participatory design with delegates from environmental authorities and community actors (including indigenous communities) from each mosaic in which the 31 public protected areas are situated (see Table 8 above), to reduce deforestation trends and monitor restoration, ecological integrity, and impacts of climate change. Increasing PA staff capacity to understand current climate change impacts and future hazards under RCP 4.5 will be critical to guide the targeted implementation of restoration and rehabilitation interventions for EbA with maximum chances of success for the greatest number of beneficiaries and reduce risks for maladaptation through interventions that reduce trade-offs with community resilience or conservation objectives.

Management plans

228. The national areas have guidelines for the construction of management plans which include aspects related to climate change. In the case of regional and private areas, guidelines will be implemented that facilitate the development of planning processes that incorporate adaptive management, diagnosis of climate vulnerability, governance, management in the face of a changing climate and the consequent ecological transformations (Climate-Smart Conservation), and the understanding of the interdependence between natural systems and social systems that are at risk. These plans will aim to administer and manage protected areas with increasing levels of effectiveness, thus contributing to human well-being. This activity will support the standardization of the planning process for the management of protected areas within SINAP, both public and private, based on common concepts, phases, and steps with general guidelines for its application.

229. The measurement of management effectiveness allows the determination of how well a protected area is being managed, i.e., the extent to which conservation values and ecosystem services are being protected and effectively managed in scenarios of climate variability. It includes understanding that the ecological, climatic, and socio-cultural dynamics associated with the conservation objectives transcend the administration and, to a large extent, the borders

of the protected area. Therefore, it is only possible to achieve these objectives through articulation with social and productive sectors in a broader landscape context.

3.1.3.c Update the management plans of 31 public protected areas with a gender and intergenerational approach and explicit consideration of short- and longer-term climate change impacts, including necessary shifts in priorities to build resilience in protected areas and their surrounding conservation landscapes.

3.1.3.d Guide the formulation of management plans in 32 natural reserves of civil society, including adaptation and mitigation measures.

3.1.3.e Facilitate the periodic measurement of the effectiveness of protected area management for adaptive management and monitor the impact of the adoption of climate-smart strategies.

3.1.3.f. Guide the formulation of management plans for San Lucas and the Guaviare regional area based on the management planning guide that includes the climate variability approach.

Control and surveillance

230. This suite of subactivities will contribute to reducing pressures such as deforestation, which affects connectivity within and between protected areas, while reducing the adaptation capacity of communities in the face of climate change. Control and surveillance are also strengthened through the consolidation of governance schemes, which is an objective of Component 1.

231. Therefore, the focus of this activity is directed towards strengthening the exercise of environmental authority through a cost-effective scheme using technologies and best practices that also promote participation. The establishment of joint control and surveillance protocols between government authorities, indigenous peoples, and local communities will lead to a more coordinated exercise of control of natural resources in protected areas and corridors, with greater confidence among the actors and with a focus on actions to control deforestation and the deterioration of water resources. These subactivities will be carried out according to the management category of the relevant protected area and the types of pressures and threats it faces.

232. One of the control and surveillance tools this activity will support is SMART (Spatial Monitoring and Reporting Tool). SMART is a ground-breaking and innovative management tool designed to assist rangers on the ground to do their job more effectively and efficiently. It has been implemented in more than 600 PAs across the world and is supported by a strong partnership of NGOs.[116] Through the use of tablets and other hand-held GPS-enabled mobile devices, SMART streamlines collection and analysis of data on important environmental indicators, such as biodiversity, on-the-ground threats to PAs, and presence of illegal activities. The use of new technologies like SMART can improve the detection of subtle changes and responses in environments undergoing change due to climate change and climate variability. SMART can help in the allocation of scarce resources for effective protection by identifying most-at-risk areas, and improving coordination and communication among rangers, community patrols, park managers, and system managers.

3.1.3.g Procurement and provision of equipment for the implementation of prevention, surveillance and control actions, including remote satellite monitoring system.

3.1.3.h Contract personnel by environmental authorities for the implementation of control and vigilance actions.

3.1.3.i Develop control and vigilance/surveillance protocols.

3.1.3.j Periodically carry out the control and surveillance tours based on the defined protocols.

3.1.3.k Collect and systematize information about the pressures mainly associated with water resources and forests.

Restoration

[116] https://smartconservationtools.org

233. This intervention will focus its actions on the reforestation of areas through plantations of native tree species (Annex 22 takes into consideration the time lag for restoration). The project will establish local nurseries as a sustainable strategy to provide trees and replacement material that will be planted according to annual schedules regarding the capacities created for these activities.

234. The project's restoration approch is aimed at promoting habitat restoration jointly with communities, especially women and youth, in protected areas prioritized because of high forest fragmentation that affects proper integrated management of water resources and increases the potential for landslides and flooding. The project will support the restoration of 8,536 ha in eight protected areas and an estimated 1,702 families will benefit directly as projected based on the National Restoration Plan (see table 9 below).

Table 9. Restoration in Protected Areas[117]

Region	Protected Area	Hectares	Households
Caribe	PNN Sierra Nevada de Santa Marta	1,035	207
Caribe	Ampliación Slerra Nevada Norte	79	16
Caribe	Ampliación Slerra Nevada Sur	315	63
Caribe	SFF Cienaga Grande de Santa Marta	195	39
Caribe	PNR Los Besotes	455	91
Caribe	PNR Serranía del Perijá	1,440	288
Andes	PNN Las Hermosas	982	491
Andes	PNN Los Nevados	152	76
Andes	PNN Chingaza	106	53
Amazonas	PNN Sierra de la Macarena	3,778	378
		8,536	1,702

3.1.3.l Restoration of 4,726 ha for connectivity/mitigation and 3,810 ha for EbA/reduce risk over 10 years in 8 protected areas (8,536 ha in total).

3.1.3.m Implement 1,702 agreements for the development of the restoration in 8 protected areas.

3.1.3.n Identify a group of young people, a group of women, community groups, knowledgeable people in each landscape to be trained and facilitators of restoration actions.

*3.1.3.o Capacity building mainly in women and young people who are part of community networks, by training 2,620 people in 8 protected areas over years 2-7 (*30% women: 840).

3.1.3.p Establish 8 nurseries in 8 protected areas.

3.1.3.q Periodically carry out maintenance work to ensure the development and survival of reintroduced species.

3.1.3.r Develop a participatory follow-up, evaluation and monitoring scheme for the different actions established based on the ecological restoration process and agreed indicators, including safeguard mitigation measures and monitoring.

Rehabilitation (Silvopasture and Agroforestry systems)

235. The project's rehabilitation actions seek to address the problems associated with issues such as the expansion of agriculture, the expansion of pastures, and the overuse of soils; which for this project translates into the intervention of the main production systems, especially those with greater distribution in the implementation sites and that generate more notable impacts on the natural environment. Rehabilitated areas will be used as the systems imply.

[117] Rows 2 and 3 corresponds to the expansion of PNN Sierra Nevada de Santa Marta. Rows 1, 2, and 3 are all one PNN.

Table 10. Rehabilitation in Protected Areas[118].

Region	Protected Area	Agroforestry (ha)	Silvopasture (ha)	Households
Caribe	PNN Sierra Nevada de Santa Marta	220	126	69
Caribe	Ampliación Slerra Nevada Norte	10	-	2
Caribe	Ampliación Slerra Nevada Sur	451	130	116
Caribe	SFF Cienaga Grande de Santa Marta	22	16	8
Caribe	PNR Serranía del Perijá	960	-	192
Andes	PNN Las Hermosas	57	252	155
Andes	PNN Chingaza	3	24	13
Amazonas	PNN Sierra de la Macarena	1,664	1,490	315
Amazonas	RFP Serrania La Lindosa - Angosturas II	22	277	30
Amazonas	RPN Capricho y Mirolindo	5	39	4
Amazonas	PNN Serranía de Chirbiquete	36	110	15
		3,450	2,464	919

3.1.3.s Facilitate the participatory rehabilitation of 3,122 ha for connectivity/mitigation and 2,792 ha for EbA/reduce risk over 10 years in 9 protected areas with climate-resilient productive systems from a differential gender and intergenerational approach for the sustainable use and management of forests and watersheds in prioritized intervention sites (5,914 ha in total).

236. This will include silvopastoral and agroecological approaches targeting the impacts of increasing heat and rainfall extremes on crop productivity in existing farmlands, including micro-irrigation, rainwater harvesting, composting systems, and vegetable greenhouses[119]—using a differential gender and intergenerational participatory planning approach. Most of the trees will be planted under a productive system design, as it guarantees that local people will be responsible for maintaining because it will be part of a regenerative source of income.

3.2.1.t Develop and implement a training-action program with community and institutional leaders, youth groups, women's groups within PAs for the implementation of the climate-resilient rehabilitation strategy within the framework of agreements with communities / producers to be carried out permanently and will be operated by the environmental authorities.

Output 3.2 Management practices improved in buffer zones and connectivity corridors to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits

237. In 2015, Colombia's Ministry of Environment and Sustainable Development developed a National Plan for Ecological Restoration, Rehabilitation and Recovery of Degraded Areas (PNR),[120] which aims to guide and promote comprehensive ecological restoration processes for 20 years. The plan seeks to restore ecosystem structure, composition, and function and guarantee the provision of ecosystem services—including those that support EbA like water provision and regulation, landslide and flood risk reduction, and soil and sediment retention for water quality—in degraded areas of special ecological importance for the country. Figure 18 illustrates the areas prioritized for restoration and rehabilitation in relation to the project's focal geographies, including priority target areas for reducing flood and landslide risk. The restoration and rehabilitation activities under this output will also contribute to the projected mitigation impact of this project through increasing carbon removals. Exact implementation areas will have to be finalized through local stakeholder consultation--communities, PA managers and staff, implementing partners, regional climate node representatives--but an initial analysis of three key ecosystem services will be used to guide discussions for areas that

[118] Rows 2 and 3 corresponds to the expansion of PNN Sierra Nevada de Santa Marta. Rows 1, 2, and 3 are all one PNN
[119] These exact systems are further detailed in Annex 2, and generally follow the principles and models as described here: IDEAM, Sistemas agroforestales y restauración ecológica como medidas de adaptación al cambio climático en alta montaña, Caso piloto, Proyecto Nacional de Adaptación al Cambio Climático –INAP– componente B, IDEAM y Conservación Internacional, Bogotá, 201
[120] https://www.minambiente.gov.co/index.php/bosques-biodiversidad-y-servicios-ecosistematicos/gestion-en-biodiversidad/restauracion-ecologica

increase water retention and provision, reduce sedimentation, and reduce flood risk downstream (see B.1 and Annex 2 for full results).

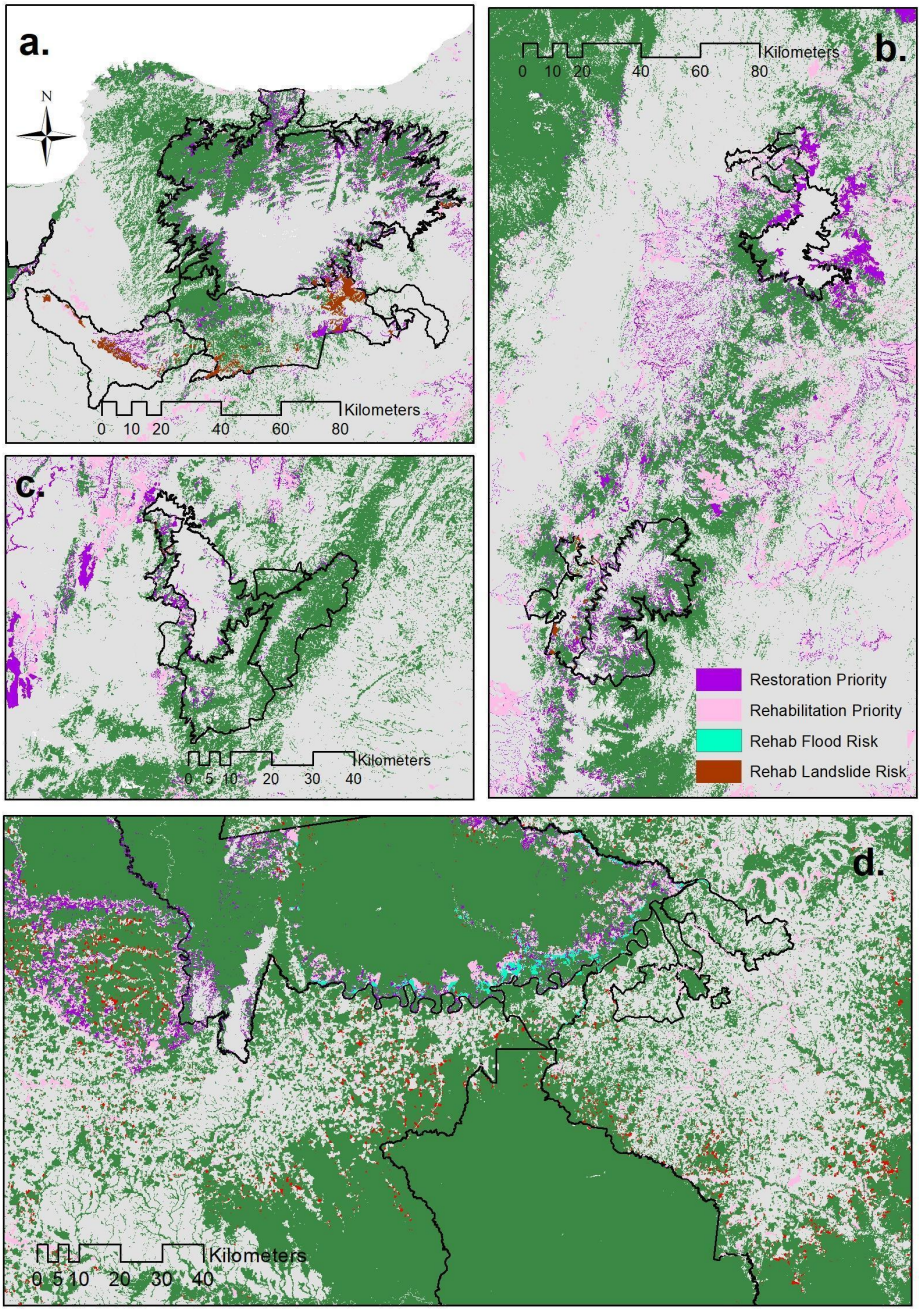

Figure 18. Maps showing priority areas of restoration and rehabilitation on degraded lands (pink to purple gradients), and of these which areas would are most important to reduce risks of landslides (brown) and flooding (turquoise), in each of the four mosaics targeted for restoration and rehabilitation. From top left to bottom, Caribbean (a), Central Andes (b), Orinoco Transition (c), and Heart of the Amazon (d).

Activity 3.2.1 Support rehabilitation of 3,254 ha of degraded lands to increase ecological integrity of targeted landscapes and reduce protected areas encroachment

238. Key areas for connectivity within the mosaics that are important for ecosystem-based adaptation have been degraded by unsound productive practices such as cultivation on steep slopes and degradation of riparian vegetation. This activity seeks to address this situation by rehabilitating degraded lands to restore their ecosystem services while maintaining the potential for productive activities through improved practices.

239. Rehabilitation processes will be developed jointly with communities, highlighting the participation of women and young people in the prioritized sites and developing local capacities. These activities will allow local communities to empower themselves in the process and associated intervention areas, always responding to their needs and allowing for changes that contribute to the construction of resilient territories and strengthening their capacities and governance. To a large extent, the actions associated with rehabilitation involve working with productive sectors (e.g., agriculture and ranching) through the implementation of good practices that contribute to both sustainable production and effective environmental management of the intervention territories.

Table 11. Rehabilitation outside of protected areas.

Implementation Site	Mosaic	Hectares	Households
Middle and Lower Río Fundación basin	Caribbean	518	104
Río Seco basin and Guacoche / Guacochito Corridor		530	106
Ríos Amaime Cerritos basins	Andes	77	39
Río Chinchiná basin		217	109
Río Guatiquía basin	Orinoco Transition	600	300
Core Area 1 Puerto Nuevo	Amazon	766	77
Core Area 2 Picalojo		546	55
Total		**3.254**	**790**

240. The rehabilitation interventions for the mosaics are described below.

241. In the case of the Caribbean Conservation Mosaic, in the Santa Marta NP-Cienaga Grande Corridor Implementation site, the aim is to establish silvopastoral systems in the middle basin of the Fundación River and agroforestry systems and living fences in coffee and cocoa plantations to enable sustainable production that is also resilient to increasingly frequent and intense drought and flooding, declining seasonal water availability, and increasing variability. At the PNN SNSM Corridor Implementation site - PNR Besotes - PNR Perijá (Río Seco basin and Guacoche / Guacochito Corridor) the activity will support the establishment of silvopastoral systems in approximately 500 ha in the middle basin of the Cesar River, involving agroforestry systems of coffee, cocoa, fruit trees, and living fences in cassava, rice, palm and cattle plantations, as well as plans for sustainable and resilient production in the Guacoche and Guacochito sectors.

242. At the PNN Sierra Nevada de Santa Marta Corridor - PNR Besotes - PNR Serranía del Perijá implementation site, the activity will support establishment of silvopastoral systems and other agroecosystems, together with the use of landscape management tools such as windshields, living fences, and multiple strata agroforestry systems, to promote sustainable use that conserves strategic ecosystems and in turn produces economic benefits to communities, increasing their adaptation to events such as floods and droughts associated with climate change.

243. For the Orinoco Transition Conservation Mosaic, at the San Juanito-El Calvario implementation site in the Guatiquía river basin, efforts will focus on the design and implementation of a participatory agricultural planning program at the farm scale, through conservation agreements with agricultural producers in the buffer zone of the Chingaza National Park, mainly with bean and cattle producers. Management alternatives will seek to address deforestation associated with staking beans, by establishing plantations for trees used to make bean stakes in some cases and the use of synthetic bean stakes in others. Pasture management will be improved through fencing and construction of paddocks to limit the entry of livestock to the forest and water sources. Project participants will work with 100 producer families under conservation agreements that provide in-kind incentives for the property planning in return for the producer leaving an area for conservation.

244. At the Gachalá - Junín implementation site in the Orinoco Transition Conservation Mosaic (also in the Guatuquia basin), actions will be developed for the design and implementation of a participatory agricultural planning

program at the farm scale in properties located in degraded areas that are vulnerable to the reduction of water supply, by designing systems that are specifically adapted to maintain their productivity in the face of decreased water supply as rainfall patterns become increasingly variable.

245. In the Central Andes Conservation Mosaic, in the Río Amaime and Cerrito Watershed Corridor implementation site, project participants will facilitate agreements with the communities of the El Cerrito municipality, particularly the Carrizal, Moral, Tenerife and Aují townships, aimed at resolving land use conflicts that lead to GHG emissions in the area of the Regional Integrated Management District Páramos Los Domínguez, Pan de Azúcar, and Valle Bonito. They will also facilitate agreements with the ranchers of the townships of El Pomo and El Castillo for the RFPN Zabaletas El Cerrito, and in Combia township (in Palmira) for the RFPN. In the case of the Albania RFPR, they will facilitate agreements sought by Tenjo township on timber harvests. At the Corredor Los Nevados - Chec Guacas Rosario implementation site, the project participants will facilitate conservation agreements with the communities and livestock producers of the villages La Enea, Buenavista, Bato Tablazo and Agua Bonita (municipality of Manizales) and El Pindo, Gallinazo (municipality of Villamaría) to reduce land use conflicts and rehabilitate the protected areas associated with these zones. These subactivities aim to reduce anthropic pressures on the provision of water resources in the area of influence of the Chinchiná river basin.

246. In the Macarena - Chiribiquete Conservation Mosaic, this activity will be carried out at four sites in the Picalojo core area, in the Picalojo, El Cristal, Orquídeas and El Dorado villages, all areas with high loss of forest cover that affects the provision of water resources, generating scarcity for consumption and productive activities. Because forage crops are the basis of livestock production, they must be included in the farm planning process so livestock may be raised without clearing additional forest for the creation of new pastures. This implementation site presents a high fragmentation of the forests due to deforestation for extensive and low-productivity cattle ranching. Therefore, this activity will focus on implementing a sustainable cattle production model that includes agreements with farm holders, allows the maintenance of the area through livestock reconversion, and protects water sources in the zone such as the Dorado, Flauta, Caribbean and Capricho streams.

247. In the Puerto Nuevo implementation site, the project participants will facilitate agreements with the families that enter the sustainable forest management process to achieve the proper use of the forests and water resources in the area.

248. Patrimonio Natural will implement this activity as EE working with relevant research institutes such as Sinchi and Invemar in the implementation sites and Ecohabitat, Semillas de Agua, WCS, and local community organizations. Specific outputs and objectives of this activity are described under its sub-activities below.

3.2.1.a Through a participatory stakeholder process, jointly design climate resilient farm management processes and production systems to address prioritized climate risks for each mosaic and improve agricultural and production practices for landscape rehabilitation and connectivity.

249. Stakeholder co-design of climate resilient farm management processes and production systems, including agroecological and agroforestry approaches tailored to prioritized climate change impacts and risks for each mosaic under RCP 4.5 identified through additional stakeholder-based planning and supported by the Third National Communication and the analyses of this proposal (acknowledging the high uncertainty of any specific projection model result), including rainwater harvesting and irrigation for home vegetable gardens, composting systems, organic fertilizers, water storage, and increased access to climate information, among other solutions; and improve agricultural and production practices for landscape rehabilitation and connectivity[121]. The project participants will carry out a general assessment of each property that determines its zoning classification and will identify actions to improve its condition and production, such as sowing of forage banks, improving existing pastures, and ensuring compliance with environmental regulations that govern protection areas for water sources and other areas of environmental importance. They will then create a step-by-step guide for each owner, based on land use planning and the regulation of its uses and permitted activities, to restore, recover, or rehabilitate the property.

[121] These exact systems are further detailed in Annex 2, and generally follow the principles and models as described here: IDEAM, Sistemas agroforestales y restauración ecológica como medidas de adaptación al cambio climático en alta montaña, Caso piloto, Proyecto Nacional de Adaptación al Cambio Climático –INAP– componente B, IDEAM y Conservación Internacional, Bogotá, 201

3.2.1.b Facilitate the participatory rehabilitation of 3,254 ha (2,518 ha focus on increase connectivity/mitigation and 737 ha for EbA and reduce risk) with climate-resilient productive systems from a differential gender and intergenerational approach for the sustainable use and management of forests and watersheds in prioritized intervention sites.

3.2.1.c Train 3,176 people (1,551 men, 1,625 women) to apply good production practices that build on-farm resilience to increasing extremes and reduce pressures on surrounding ecosystems, and use of appropriate equipment and technologies for each landscape, in 8 places (Cuenca media y baja río Fundacion, Zona río Seco Guacoche y Guacochito, Cuenca Río Amaime y Cerritos, Cuenca Río Chinchiná, Cuenca Río Guatiquía, Nuecleo 1 Pto Nuevo, Núcleo 2 Picalojo) - annually, from year 2 to 8, to get to total 9 for implementation period.

3.2.1.d Assessment of ecological integrity and independent evaluation of training delivery in each 4 years.

3.2.1.e Implementation and monitoring of safeguards implementation measures, including any ESMPs or other Safeguard plans created during project implementation.

3.2.1.f Technical assistance for the management and use of 12,000 ha of forest in the Puerto Nuevo intervention site in Corazón Amazonía (timber and non-timber species).

Activity 3.2.2 Support the restoration of 2,750 ha of forest ecosystems in targeted landscapes to improve ecosystem integrity and functionality

250. Actions in the Orinoco Transition Conservation Mosaic will include studies on floral phenology of timber and non-timber forest species that the communities of the Quebrada Blanca village of the municipality of Fómeque use as a means of production. This subactivity will include identifying the botanical description of the species and its flowering and fruiting stages, and collecting fruits, seeds, and seedlings to carry out propagation processes in situ.

251. For the Caribbean Conservation mosaic, at the Sierra Nevada - Ciénaga Implementation site, a participatory ecological restoration strategy will be designed and implemented for the fragmented forests in the basins of the Fundación River (southwestern slope of the SNSM). In the site Implementation Sierra Nevada - Besotes, a similar strategy will be designed and implemented in the basins of the Badillo, Rio Seco and Cesar rivers, Guacoche and Guacochito sectors by creating a restoration plan and maintenance scheme, strengthening local capacities and community networks, and monitoring. In the Caribbean Conservation mosaic, the project participants will facilitate and implement 11 conservation and use agreements with property owners in the Besotes PNR, including the FUNDEBES and Fuerza Verde Foundations, at the Sierra Nevada - Besotes Implementation site. At the Zona Núcleo - PNN SNSM implementation site, the project participants will facilitate conservation agreements with the indigenous peoples of the SNSM, productive sectors, and competent authorities aimed at reducing pressures on and generating opportunities for conservation. They will also facilitate intercultural dialogue roundtables and agreements to resolve use and management conflicts in areas of current peasant occupation, which will contribute to solving property sanitation problems by linking the protected area and the indigenous peoples of the Sierra Nevada de Santa Martha.

252. For the Orinoquía Transition Conservation mosaic, at the San Juanito - El Calvario Implementation Site, the project participants will facilitate multi-stakeholder participatory restoration agreements among government entities and local peasant populations aimed at reducing deforestation (e.g., logging practices) in San Juanito and El Calvario. To address the pressure dynamics exerted by the productive systems of the area, producers and the relevant environmental authorities will be involved in the restoration actions.

253. In the Central Andes Conservation Mosaic, at the Nevados Chec-Guacas Rosario Implementation site, relationship spaces will be developed aimed, among other purposes, at the conclusion of conservation - production agreements with community actors in the livestock and agricultural sector. For the Hermosas - Genova implementation site, similar spaces will be developed to strengthen the inter-institutional committees for the management of the RFPN Amaime and DRMI Pan de Azúcar; linking community actors from the El Cerrito Municipality, Carrizal, Moral, Ajuí, Tenerife, El Pomo and El Castillo townships, Palmira Toche, Tenjo, and Combia townships.

254. In the Hermosas PNN, the project participants will facilitate conservation agreements between landowners and territorial entities to reduce land use conflicts and address the fragility of ecosystems in the face of climatic threats. This subactivity will include work in 47 properties in the municipalities of Buga, Palmira, Chaparral, and Rioblanco.

255. For the Nevados-Chec-Guacas-Rosario Implementation site, conservation agreements will be implemented in the villages of the Manizales and Villamaría municipalities, within the protected area in Rio Blanco and Quebrada Olivares in the Buenavista, La Enea, and Gallinazo villages. At the PNN Nevados Implementation site, subactivities will include conservation agreements and payment for environmental services with ranchers in 1,300 Ha within the Los Nevados PNN; and conservation on the grounds: El Oso - Murillo (67 hectares of the Park), La Cabaña - Murillo (lands La Ermita, La Tribuna, El Bosque: 1,200 hectares inside the Park.

256. At the Hermosas Génova Implementation site, conservation agreements will be concluded with the communities of the El Cerrito municipality, particularly the Carrizal, Moral, Tenerife and Ajuí townships, areas where land use conflicts are occurring in the area of the Regional Management District Integrated Páramos Los Domínguez, Pan de Azúcar, and Valle Bonito. Likewise, the project will include conservation agreements with ranchers from the townships of El Pomo and El Castillo for the RFPN Zabaletas, El Cerrito, and El Corregimiento de Combia (in Palmira) for the RFPN; and with actors from the timber sector around RFPR Albania, Tenjo district, seeking to reduce land use conflicts.

257. For the Amazon Conservation Mosaic, at the Picalojo Implementation Site, property planning actions will be developed around sustainable livestock systems focused on the restoration and maintenance of areas vulnerable to water shortages. These subactivities will take place in the Picalojo villages, El Cristal, Orquídeas and El Dorado, covering at least 170 properties. The project participants will also implement conservation agreements for economic support and technical assistance to reduce socio-environmental conflicts with peasants who are located in areas of influence of PNN Sierra de la Macarena. This subactivity will take place in the area of influence of the PNN Macarena in the municipality of San José del Guaviare, on the RFP Serranía de la Lindosa, and in the villages of El Raudal, Los Naranjos and Bocas del Raudal. The communities in the protection zone of the prioritized micro-watersheds, (La María, Caño Yamú, Caño Retiro, Caño Dorado) will develop these agreements with local organizations. These subactivities will contribute to the goals established in the Integral Rural Reform established in the Peace Agreement. The project will promote the implementation of actions associated with the Development Plan with a Territorial Approach -PDET- as agreed by the region of Guaviare. Of most importance are those related to sustainable forest management since it is one of the actions prioritized by the Guaviare government, the regional environmental authority (CDA) and local community organizations in the region. The implementation of these actions will contribute to the reduction of socio-environmental conflicts associated with land use and to the reduction of deforestation and forest degradation.

258. For the Orinoquía Transition Conservation Mosaic, at the San Juanito - El Calvario Implementation site, a 45-hectare participatory restoration program will be consolidated in the La Playa River basin, Fómeque, to create a corridor between the Quebrada Honda Regional Natural Park (located between Villavicencio and El Calvario) and the Chingaza PNN, integrating other SINAP figures and strategic ecosystems in the area.

259. Subactivities under this activity in the Caribbean Conservation mosaic will focus on the Sierra Nevada - Besotes Implementation site, namely participatory restoration in the Los Besotes PNR of 683 ha. 163 ha of this restoration will be active restoration, and 520 ha will be passive restoration.

260. In the Central Andes Conservation mosaic, in the Nevados Chec Guacas Rosario Corridor Implementation Site, restoration actions will be carried out in degraded areas with the participation of local communities to create and strengthening their capacities and strengthening governance and environmental management through the involvement of society in the management and recovery of the territory. These actions will take place in the villages of La Enea, Buenavista, Bato Tablazo and Agua Bonita (municipality of Manizales), and El Pindo, Gallinazo (municipality of Villamaría). At the PNN Las Hermosas Implementation site, this subactivity will contribute to the active and passive restoration of around 900 hectares.

261. In the Macarena - Chiribiquete Conservation mosaic, restoration activities are proposed at the implementation sites Caño Dorado (350 ha), in Puerto Nuevo (500 ha) and in Picalojo (500 ha). These activities will strengthen the

network of nurseries in existing spaces and additional spaces in strategic locations for the production and distribution of plant material in the areas to be restored. It is intended that some of these nurseries will be certified, to be able to sell this material to purchasers who require certification.

262. Patrimonio Natural will implement this activity as EE, working with relevant research institutes such as Sinchi and Invemar in the implementation sites and with Ecohabitat, Semillas de Agua, WCS, and local community organizations. The following subactivities (including outputs and objectives) associated with Activity 3.2.2 will take place for each of the conservation mosaics and the implementation sites that comprise them.

3.2.2.a Establish 30 nurseries with 30 communities for 2,750 ha of restoration.

3.2.2.b Restoration of 2,750 ha over 10 years in 4 mosaics to increase resilience for 2,579 people from 640 households (1,259 men, 1,320 women), taking into account ancestral practices.

Table 12. Restoration outside of protected areas.

Implementation Site	Mosaic	Hectares	Households
Cuenca Rio Seco y Corr. Guacoche/Guacochito	Caribbean	650	130
Cuenca Guatiquia	Andes	750	375
Nucleo 1 Puerto nuevo	Amazon	500	50
Nucleo 2 Picalojo		500	50
Ronda Caño Dorado		350	35
Total ……..		**2,750**	**640**

3.2.2.c Develop a participatory follow-up, evaluation and monitoring scheme for the different actions established based on the ecological restoration process and agreed indicators.

3.2.2.d 2,579 people trained (1,259 men, 1,320 women) in 8 community groups (Cuenca media y baja río Fundacion, Zona río Seco Guacoche y Guacochito, Cuenca Río Amaime y Cerritos, Cuenca Río Chinchiná, Cuenca Río Guatiquía, Núcleo 1 Pto Nuevo, Núcleo 2 Picalojo) as total in the four mosaics to be facilitators of restoration actions.

3.2.2.e Implementation and monitoring of safeguards implementation measures, including any ESMPs or other Safeguard plans created during project implementation.

Activity 3.2.3 Augment available information on productive sectors, financial flows and investable biobusinesses that support climate and nature positive outcomes in HECO's mosaics and attract capital from investors

263. The long-term financial sustainability of landscape management as envisioned in this proposal will depend on investments by the private sector in nature-based solutions to climate change. In the face of the economic and social crisis caused by the coronavirus pandemic there is an especially urgent need to support the transition to a green, fair, and resilient economy that respects the rights and livelihoods of indigenous peoples and other poor and marginalized communities, creates jobs, addresses inequality, and drives inclusive growth.

264. The challenges to private sector investment include mobilizing finance at the scale it is needed and identifying a robust pipeline of investment opportunities. This activity will address these challenges by augmenting available information on three nature-based sectors, identifying growth opportunities for biobusinesses within these sectors, and improving access to capital for these enterprises. The activity is expected to enhance deal flow between community-level enterprises and SMEs in production systems and value chains for agroforestry, coffee, cacao, tropical fruits, and ecotourism and public, private and blended investment facilities.

265. This activity will develop a pipeline of investable business for the Amazon Bioeconomy Fund (FP173). This project's grant-financed investments will complement those of the Amazon Bioeconomy Fund by securing natural capital that support businesses ranging from eco-tourism to forest products as well as valuable ecosystem services like regulation of water and micro-climates. IDB and WWF are coordinating their work in support of the Government of Colombia to ensure that these investments maximize opportunities to achieve synergy at the national level and contribute to Amazon regional climate mitigation and resiliency goals.

266. WWF Colombia will implement this activity as EE. Specific outputs and objectives of this activity are described under its sub-activities below.

3.2.3.a Conduct sector assessments for forestry, tourism and agriculture to characterize 1) the sector contribution to localized forest/ecosystem service degradation and 2) size and potential of the sustainable segment of each sector.

3.2.3.b Conduct a broad scan of community enterprises and SMEs operating in each sector in each mosaic.

3.2.3.c Conduct feasibility screens (financial/climate) on community enterprises and SMEs.

3.2.3.d Map and assess public/private investment flows into the forestry, tourism and agriculture sectors in each mosaic.

3.2.3.e Improve access to capital for a maturing pipeline of community enterprises and SMEs by identifying potentially suitable investors for individual business and/thematic portfolios.

3.2.3.f Incorporate information in Leticia Platform database.

Activity 3.2.4 Technology and Innovation to Close the Conservation Finance Gap in the Amazon basin - the Herencia Colombia pilot with the Ministry of Environment

267. By identifying investment ready sectors and projects, this activity comprises an ongoing joint initiative of the IADB, the Paulson Institute and WWF to develop a digital platform aimed at promoting conservation financing and sustainable investments within the broader Herencia Colombia (HECO) program. The platform will use the most advanced technologies and algorithms to provide in one place intelligent data and tools to inform investors of sustainable investments, projects, and actors in HECO's target geographies. The goal of the platform is to increase the financing available for projects that contribute to the conservation, restoration, or sustainable use of biodiversity and the adaptation and mitigation of climate change in the Amazon basin. The platform will encourage investments in high priority landscapes and promote the growth of a forest-friendly business environment to generate jobs and income for the local population.

268. The IADB-Paulson Institute-WWF collaboration is direct implementation support to the Leticia Pact, signed in September 2019 by seven Amazon countries with the objective to foster collaboration and leverage the flow of funding towards the basin conservation and sustainable development. The signing of the Leticia Pact represents the opportunity for a catalytic shift in the efficiency and use of investment through a combination of smarter public spending and aggressive incentives for private investment. Yet a principal barrier to attracting new financing is a lack of coordination and knowledge exchange among global, regional and local actors, leading to the inefficient use of funds (duplication of efforts while underserving rural populations and sustainable enterprises).

269. This activity proposes to design, develop and launch a digital platform aimed to foster the financing of investments that contribute to climate change mitigation and adaptation and conservation of ecosystems services such as water and biodiversity. The platform will use the most advanced technologies and algorithms to provide in one place intelligent data and tools to connect governments, investors, donors, philanthropists with investments, projects and actors in high priority locations in the mosaics.

270. The Leticia Platform is the product of a unique partnership of key players in conservation, technology, data science and finance. The platform combines location intelligence with the power of connections and collaboration integrating the industry-leading Geographic Information System (GIS) and Client Relationship Manager (CRM) platforms in one place. Additionally, the implementation of advanced data science algorithms using data from external

partners will allow the Leticia platform to provide a wide range of audiences with fast and accurate responses to investment profile queries.

271. Metrics that will characterize the Platform's success in shifting the development finance paradigm in the mosaics include:

i. the # of profiles created, user retention rate and geographic distribution by users type: investors, start-ups/entrepreneurs, government agencies, NGOs;
ii. investment transaction volume in green businesses/ventures;
iii. total value of monetary flow on the platform to forest conservation.

272. HECO will be considered a pilot for the Leticia Platform's next deployment at the level of the signatory countries of the Pact. While there are many information and data management platforms on the Amazon basin (e.g. Global Forest Watch, etc.) most contribute to the purposes of science, conservation and project management. There is no platform designed with a connection approach between the finance and the conservation worlds and specialized in driving efficient and additional finance in the Amazon basin.

273. WWF Colombia will implement this activity as EE. Specific outputs and objectives of this activity are described under its sub-activity below.

3.2.4a Implement a brand and growth strategy for the platform that includes identifying, activating and growing a community of users.

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

Accredited Entity

274. World Wildlife Fund, Inc. (WWF-US) will serve as the Accredited Entity (AE) for the Project. WWF-US will provide all of the GCF Proceeds to the EEs. The AE will be responsible for the overall oversight of this project, including technical, financial, and administrative monitoring and supervision (through reporting, audits, and annual site visits) and review and approval of the Executing Entities' (EE) annual workplans and budgets. WWF-US will also be responsible for providing support, guidance and backstopping to the EEs, monitoring of the achievement of Project results and Outputs, reporting to the GCF, and project closure and evaluation. WWF-US will conduct these responsibilities, and disburse GCF funds to the EEs, in line with WWF-US's Accreditation Master Agreement (AMA) with the GCF. WWF-US also serves as the AE for FP050 Bhutan for Life, a similar Project Finance for Permanence (PFP) which was launched in 2018 and recognized by the GCF as a "Prototype Project" on the basis of its financial strategy.

275. This Project will be a cornerstone of WWF-US's regional vision and strategy for the Amazon, which will bring together Project Finance for Permanence projects in Brazil, Peru, and Colombia. These three country initiatives will secure the long-term protection of approximately 13% of the Amazon biome and foster a paradigm shift towards low-emission and climate-resilient development in these countries.

276. WWF-US will be the co-financier for the contributions of philanthropic donors to the PFP, having raised those funds for this purpose. WWF-US will distribute that co-financing to Patrimonio Natural via a Grant Agreement. That Grant Agreement will incorporate the PFP's Conservation Plan, Financial Model, and Operations Manual and bind Patrimonio Natural to those fundamental elements of the PFP. In accordance with the PFP model and the incorporated Operations Manual, that Grant Agreement will require Patrimonio Natural to follow the HeCo Steering Committee's determination about whether the transition fund's disbursement conditions have been met before making periodic disbursements from the transition fund for program activities. This determination will be made annually during the term of the project. See Table 15 below for the Disbursement Conditions, and the accompanying text for more information.

277. WWF-US has also signed an agreement with the Government of Colombia, Patrimonio Natural, WWF Colombia, Wildlife Conservation Society, Conservation International, the Gordon E. and Betty I. Moore Foundation, The Nature Conservancy, and Andes Amazon Fund to memorialize their commitments to HeCo, including the PFP's Conservation Plan, Financial Model, and Operations Manual as the fundamental elements of the PFP. That agreement, together with article 223 of Law 1819 of 2016 of the Republic of Colombia as amended; Resolution 0505 of May 17,

2022 of the Ministry of Environment and Sustainable Development; and the Republic of Colombia's co-finance commitment letter (Annex 13.b.ii) shall constitute the legal agreements and/or arrangements under which the Republic of Colombia will provide Co-financing to assist in the Project implementation (the Co-financing Agreement as defined in the FAA). This government co-financing will directly finance the activities in the PFP Conservation Plan as defined within this project's logical framework, beyond and above its contributions to the current baseline.

Executing Entities

278. The "Heritage Colombia Transition Fund" is an account/restricted fund administered by **El Fondo Para La Biodiversidad y Áreas Protegidas - Patrimonio Natural (Patrimonio Natural)** that is governed by an Operations Manual - and WWF's grant agreements to Patrimonio Natural - with a multi-stakeholder board, the HECO Steering Committee (described below), to provide oversight and transparency during implementation. The fund administrator manages donated funds, makes regular disbursements to procured parties and grant beneficiaries, and assesses program implementation progress in a manner that ensures the vision continues to be implemented despite changes in political administrations.

279. As the administrator of the Transition Fund, **Patrimonio Natural**, a Colombian private organization, will be an Executing Entity for this project. Patrimonio Natural was selected for this role because of its experience and track record in administering conservation funds from diverse donors in Colombia. Patrimonio Natural's role as administrator is a key feature of the PFP approach to (a) coordinate the project from a central entity that also plays that role for certain co-financing and parallel financing; and (b) centralize the transition to long-term, sustainable funding and planning of ongoing activities to local institutions as part of the Project's exit strategy. Putting Patrimonio Natural forward in this role also furthers the GCF's stated objectives of country ownership and strengthening the capacities of, and otherwise supporting, subnational, national, and regional entities.

280. Patrimonio Natural will be responsible for Project execution; management of Procured Parties (as defined below) and their activities (see Table 13 for allocation of management of Procured Parties between the EEs); reporting to the AE; and ensuring optimal alignment of Government of Colombia policies and ministerial contributions to achieve Project outcomes and Fund-level impacts for activities 1.3.1, 2.1.1, 2.1.2, 3.1.1, 3.1.2, 3.1.3, 3.2.1, and 3.2.2, as described in section B.3. Patrimonio Natural will hold GCF Proceeds and Private Donor co-finance in new and separate dollar (USD) denominated accounts. As EE, Patrimonio Natural will enter into agreements with each procured party for the foregoing activities, retaining responsibility for any delegated authority over financial management and procurement. As part of the AE's due diligence, WWF-US assessed Patrimonio Natural's capacity (see Annex 9 for details). This assessment determined it to be capable of applying WWF-US and GCF standards and policies in the execution of this Project.

281. Patrimonio Natural will establish the **Project Management Unit (PMU)**. The PMU will consist of full-time consultants contracted by Patrimonio Natural. The PMU will be headed by a full-time Project Manager, who will be responsible for Project delivery and coordination with all stakeholders. The PMU will be responsible for overall project management and planning, providing support to the execution of day-to-day activities, coordinating with the national government and Procured Parties, coordination with the AE, direct supervision of contracted project activities, and coordinating project execution across four landscapes. The PMU will also be responsible for reporting on the application of resources and results achieved; preparing management reports including annual reports and any proposals for the adaptive management of the project; promoting inter-institutional linkages and coordination with national initiatives; and disseminating project results. The PMU will also include the following full-time consultants: Financial Manager, Procurement Specialist, Administrative Assistance, a Communications Specialist.

282. Patrimonio Natural will also contract an M&E Specialist, two Safeguards Specialists, a Stakeholder Engagement Specialist, a Gender Specialist, four Technical Leads, and four Landscape Leads. The Technical Leads will lead the implementation of activities under each of the proposed Outputs. (See further details in Section E.7 and cost details in Annex 4.)

283. In executing the Activities for which it is responsible, Patrimonio Natural will (a) provide GCF Proceeds to Procured Parties Alexander Von Humboldt Scientific Research Institute (Von Humboldt), Instituto de Investigaciones

Marinas y Costeras (INVEMAR), Instituto Amazónico de Investigaciones Cientificas (SINCHI), Terrasos, and NGOs[122] (as defined below), which will be engaged by either Grant or consulting agreements; (b) provide GCF Proceeds to Community Associations (as defined below) that will be beneficiaries of grants and engaged by Grant agreements; and (c) contract goods and services for procured parties Parques Nacionales Naturales de Colombia (PNN) and Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM), which will be engaged by Cooperative Agreements.

284. Parques Nacionales Naturales de Colombia (PNN) will play an indispensable role in the project as the agency responsible for managing Colombia's protected areas. PNN is a Special Administrative Unit of the National order with administrative and financial autonomy but without legal status. It will be the recipient of goods and services, but not cash. It has served as the lead negotiator for the government of Colombia in planning the HECO PFP and this GCF project and proposal, including the project activities, budget, governance, and monitoring and evaluation mechanisms. PNN will be strengthened significantly through implementation of the project (e.g., as more fully described in the description of Activity 3.1.3. in section B.3. above, 31 National and Regional Conservation Areas will be brought to a structural level of management).

285. **Fondo Mundial para la Naturaleza Colombia (WWF Colombia)** will be an Executing Entity for this project**.** WWF Colombia, an independent Colombian private organization under the international WWF Network[123], has experience and a track record in carrying out similar conservation activities in Colombia. It has assisted local communities and government entities in designating six million hectares of new protected areas; has promoted public institutes and communities in the development of participatory climate monitoring systems; and has almost 30 years of experience applying an inclusive, multi-sector approach to conservation approach that focuses on promoting economic alternatives and facilitating the adoption of agreements to reduce conflicts and land use changes.

286. WWF Colombia will be responsible for coordinating with the PMU, Project execution, management of Procured Parties and their activities (see Table 13 for allocation of management of procured parties between the EEs), providing GCF Proceeds to grant beneficiary Community Associations, reporting to the AE, and ensuring optimal alignment of Government of Colombia policies and ministerial contributions to achieve Project outcomes and Fund-level impacts for activities 1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 2.2.1, 2.2.2, 3.2.3, and 3.2.4, as described in section B.3. WWF Colombia will hold GCF Proceeds and Private Donor co-finance in unique dollar denominated accounts. As EE, WWF Colombia will enter into either grant agreements or cooperative agreements with each procured party and grant beneficiary Community Association for the foregoing activities. As part of the AE's due diligence, WWF-US assessed WWF Colombia's capacity (see Annex 9 for details). This assessment determined it to be capable of applying WWF-US and GCF standards and policies in the execution of this Project.

287. In executing the Activities for which it is responsible, WWF Colombia will (a) provide GCF Proceeds to Procured Parties Von Humboldt, Regional Environmental Authorities,[124] and NGOs,[125] which will be engaged by either Grant or Cooperative agreements; and (b) provide GCF Proceeds to Community Associations that will be beneficiaries of grants and which will be engaged by Grant agreements.

288. **Procured Parties.** The Procured Parties will be the entities that are procured by the Executing Entities under the Project: Von Humboldt, INVEMAR, SINCHI, IDEAM, PNN, Terrasos, Regional Environmental Authorities, and

[122] The NGOs that will be engaged by Patrimonio Natural will be Wildlife Conservation Society (WCS), Fundación Ambiental Ecohabitats Colombia, Semillas de Agua, and Fundación para la Conservación y el Desarrollo Sostenible.

[123] WWF Colombia is not controlled by the AE, does not control the AE, and is not under common control with the AE, where "control" means ownership of a majority of the voting power of the either entity. Both organizations are independent entities with bilateral contractual and licensing relationships with World Wide Fund for Nature, a Swiss foundation that serves as the secretariat for the global network of WWF National Organizations.

[124] The Regional Environmental Authorities will be Corporación Autónoma Regional del Cesar, Regional Autonomous Corporation of La Guajira (Corpoguajira), Corporación Autónoma Regional del Magdalena (CORPAMAG), Región Administrativa y de Planeación Especial/Región Central RAP-E, Corporación Autónoma Regional Del Guavio (CORPOGUAVIO), Corporación Autónoma Regional De Cundinamarca (CAR), Corporación para el Desarrollo Sostenible del Área de Manejo Especial La Macarena (Cormacarena), Corporación Autónoma Regional de Risaralda (CARDER), Corporación Autónoma Regional del Valle del Cauca (CVC), Corporación Autónoma Regional de Caldas (CORPOCALDAS), Corporación Autónoma Regional de Tolima (CORTOLIMA), and Corporation for Sustainable Development of the North-East Amazon (CDA) (collectively, the Regional Environmental Authorities).

[125] The NGOs that will be engaged by WWF Colombia will be Fundación Ambiental Ecohabitats Colombia, Fundación Grupo Conserva, Tropenbos, Corporación Arrieros del Guatiquía (CORTUAGUA), Vivo Cuenca, Fundación Ambiente Colombia, Fundacion Natura, and Fundación para la Conservación y el Desarrollo Sostenible.

NGOs.[126] Single source selection has been used to procure these parties because they alone have the skills, experience, and remit to perform their respective roles within the project; the AE's procurement policy and grant issuance policies and procedures allow for sole source selection if a written justification for the use of a non-competitive process in the selection of the third party has received prior approval from the SVP for Program Operations, and this process for sole sourcing has been applied to all entities listed in Table 13, except for the grant beneficiary Community Associations. The grant beneficiary Community Associations, which include Indigenous and Afro-descendant communities, will be selected during project execution according the selection criteria described submitted to the GCF in advance of the first disbursement under the FAA (the Eligibility Criteria), where such criteria shall be consistent with, and more specific than, the criteria set out in the table below entitled "Initial Criteria" (the Initial Criteria).

289. As detailed in Table 13, some Procured Parties will receive funding from the relevant EE to implement particular activities or to provide goods or services to the EEs or other parties for particular activities. Procured Parties that will not receive cash because they are governmental entities will instead receive goods or services procured or provided directly by the relevant EE. Procured Parties will use these financial or other resources to help the EEs deliver project Outputs through, for example, participation in the governance structures for climate-responsive planning and development of Component 1, and the participatory monitoring systems used for improved decision-making in territorial planning of Component 2. Cash procurements and grants will be awarded under WWF's accreditation scope of "grant award and/or funding allocation," and Table 13 therefore also indicates which Activities involve grant award and/or funding allocation.

Table 13. Partner entity details, identifying procured party or grant beneficiary

Entity Shown in Figure 19	EE	Role of that Entity in the Project	If grant award and/or funding allocation, which Activities?	Form of Agreement between that Entity and that EE	Entity pre-selected, or will criteria be applied during execution?	Will that Entity Sub-grant? I.e., will it be an intermediary for cash grants?
Parques Nacionales (PNN)	Patrimonio Natural	Procured party, as the recipient of goods or services		Cooperative agreement	Pre-selected, sole sourced	No
IDEAM	Patrimonio Natural	Procured party, as a recipient of goods or services		Cooperative agreement	Pre-selected, sole sourced	No
Von Humboldt	WWF Colombia	Procured party, cash recipient	1.1.1	Grant agreement	Pre-selected, sole sourced	No
	Patrimonio Natural	Procured party, cash recipient	2.1.1, 2.1.2, 3.2.1, 3.2.2	Grant agreement	Pre-selected, sole sourced	No
INVEMAR	Patrimonio Natural	Procured party, cash recipient	2.1.1, 2.1.2	Grant agreement	Pre-selected, sole sourced	No
SINCHI	Patrimonio Natural	Procured party, cash recipient	2.1.1, 2.1.2, 3.2.1, 3.2.2	Grant agreement	Pre-selected, sole sourced	No
Terrasos	Patrimonio Natural	Procured party, cash consultancy	1.3	Consulting agreement	Pre-selected, sole sourced	No
NGOs	WWF Colombia	Procured parties, cash recipient	1.1.3, 1.2.1, 2.2.1, 3.1.1, 3.1.3	Grant agreements	Pre-selected, sole sourced	No
	Patrimonio Natural	Procured party, cash recipient	3.2.1, 3.2.2	Grant agreements	Pre-selected, sole sourced	No
Regional Environmental Authorities	WWF Colombia	Procured party, as the recipient of goods or services		Cooperative agreements	Pre-selected, sole sourced	No
Community Associations	WWF Colombia	Grant beneficiaries selected in accordance with Eligibility Criteria and employing funds in accordance with Eligible Purposes	1.1.1, 1.1.2, 1.2.1, 1.2.2	Grant agreements	Selected during execution by applying eligibility criteria (in Table 14)	No
	Patrimonio Natural	Grant beneficiaries selected in accordance with Eligibility Criteria and employing funds in accordance with Eligible Purposes	3.1.3, 3.2.1, 3.2.2	Grant agreements	Selected during execution by applying eligibility criteria (in Table 14)	No

290. Community Associations (including community education institutions, watershed councils, water boards, and indigenous and Afro-descendant communities) will be the beneficiaries of grant funding and will engaged by the Executing Entities via grant agreements (Community Associations). They will be selected during project execution in accordance with the Eligibility Criteria, which shall include: their financial capacity, technical capacity in the relevant field, past performance in the relevant region, the quality of their relationships with the relevant government agencies or units, and their record of compliance and capacity to comply with the GCF and WWF-US policies flowed down to the EEs in the Subsidiary Agreements (including environmental and social safeguards, gender, fiduciary, AML/CFT, and

[126] The NGOs will comprise Wildlife Conservation Society (WCS), Fundación Ambiental Ecohabitats Colombia, Fundación Grupo Conserva, Vivo Cuenca, Semillas de Agua, Tropenbos, Corporación Arrieros del Guatiquía (CORTUAGUA), Fundación Ambiente Colombia, Fundacion Natura, and Fundación para la Conservación y el Desarrollo Sostenible (collectively, the NGOs).

prohibited practices policies and standards), as well as the Activity-specific criteria set out in Table 14. These parties will be assessed to ensure that they have the financial and operations capacity to execute the funding per the agreement with the EE and the legal capacity to enter into an agreement with the EE and carry out obligations under that agreement. This assessment will ensure that they have the systems, controls and procedures that comply with IFRS accounting standards. The Community Associations will only be entitled to use the GCF Proceeds they receive in accordance with specific requirements (Eligible Purposes). "Eligible Purposes" shall mean: The participation in trainings under Activities 1.1.1, 1.1.2, 1.2.1, 1.2.2, 3.1.3, or 3.2.1; activities pursuant to participatory plans or conservation agreements under Activity 3.1.3; nursery or restoration activities under Activities 3.1.3 and 3.2.2; and on-farm adaptation work under Activity 3.2.1.

Selection Criteria

The table below illustrates the selection and eligibility criteria that will be applied for participants of the activities described in Section B.3 above. Note that the Procured Parties were preselected using the identified criteria; the AE's procurement and grant issuance policies and procedures allow for sole source selection if a written justification for the use of a non-competitive process in the selection of the third party has received prior approval from the SVP for Program Operations, and this process for sole sourcing has been applied to the Procured Parties. The Community Associations will be selected during project execution according the Eligibility Criteria described in this chart.

Table 14 Initial Criteria

Type	Criteria	When Applied	Relevant Activities	Ending Year
Criteria applied to preselect Procured Parties that will also be used as "Initial Criteria" to form the bais of the Eligibility Criteria to be applied by the EEs to select the Community Associations during execution	• That it be a legally constituted entity before the Colombian government • That they have the financial and operations capacity to execute the funding per the agreement with the EE • That they have the legal capacity to enter into an agreement with the EE and carry out obligations under that agreement • That they have the systems, controls and procedures that comply with IFRS accounting standards • That they do not have legal sanctions or lawsuits in progress • Demonstrated experience in the management of financial resources comparable to the amount that will be handled in the agreement • Demonstrated experience in the object and scope of the subgrant or agreement in the territory to work, particularly in the design of adaptation and mitigation measures to climate variability • Organization without reputational notes that compromise the proper execution of activities. • With respect to the Autonomous Environmental Corporations, that they have jurisdiction in the area; with respect to the territorial ethnic communities, that they have legal representation before the Ministry of the Interior • When applying for Civil Society Nature Reserves - RNSC, that they be through articulating organizations • When applied to local organizations (including peasant communities), that have the administrative capacity (including required documentation) to manage funds and accounting reports. • When applied to local communities, clear potential for enhancing climate change mitigation and/or adaptation. Cataloged or identified as vulnerable to climate change and variability and/or land properties located close to or part of ecosystems with high carbon stocks and high potential for carbon sequestration. • Local communities located into or close to National Parks with high vulnerability to climate change or with high deforestation rates.	<u>Selection of Procured Parties</u>: Criteria applied to preselect Procured Parties <u>Selection of Community Associations</u>: These Initial Criteria also form the basis of the Eligibility Criteria to be applied by the EEs to select the Community Associations during execution	1.3.1 2.1.1 2.1.2 2.2.1 2.2.2 3.2.3	2 2 2 2 2 3
Communities (training participants) and individual participants/end beneficiaries of trainings chosen	• That there is gender and intergenerational equity • That they be delegated by the organizations in their recognition of leaders preferably (not exclusively) through an internal selection process by the communities • Preferably they are leaders in territory and environment • That they demonstrate some type of background/affinity/relationship with the subject of the training	Initial Criteria form the basis of the Eligibility Criteria be applied during execution (by EE)	1.1.1 1.1.2 1.2.1 1.2.2 3.1.3.n 3.2.1.t 3.2.1.c	Permanent Permanent Permanent Permanent Permanent Permanent Permanent

from members of those communities	and that they commit to replicate their learning with the communities or their work group ● Live in or represent the areas of implementation with high vulnerability and risk areas to climate change or areas with high deforestation ● Interation with different activities to ensure a clear potential for enhancing climate change mitigation and/or adaptation			
Communities (participatory plans/conservation agreements)	● Live in the intervention zones with high vulnerability and risk to climate change or areas with high deforestation rates ● Demonstrated high vulnerability to the impacts and risks of climate change ● Preferably (but not exclusive) that certify occupation of the land ● That they are part of an association or a local/regional coordination body ● In the case of territorial ethnic communities, which have representation certified by the environmental authority ● Clear potential for enhancing climate change mitigation and/or adaptation ● Willingness to integrate adaptation and mitigation measures to climate variability ● Willingness to maintain restoration/rehabilitation activities	Initial Criteriato form the basis of the Eligibility Criteria to be applied during execution (by EE)	3.1.3.m	Permanent until year 7
Communities (nurseries / restoration work)	● Preferably they certify occupation of the land ● That there is gender and intergenerational equity ● That their properties have an important value for the restoration action to be carried out (that is, that they respond to technical selection criteria according to the intervention to be carried out) ● That there is a commitment to maintain the restoration and monitoring action for at least a period of 5 years ● Live in or close to areas with high potential for achieving carbon sequestration benefits (e.g., ecosystems with high biomass capture) ● That they be linked to training activities to be able to advance in the best possible way the activity and monitoring of the restoration ● Willingness to integrate adaptation measures to climate variability during the restoration process	Initial Criteria to form the basis of the Eligibility Criteria to be applied during execution (by EE)	3.1.3 3.2.2	Permanent until year 7 Permanent until year 7
Communities (on-farm adaptation work)	● Preferably (but not exclusive) that certify occupation of the land ● That there is gender and intergenerational equity ● Demonstrated high vulnerability to the impacts and risks of climate change ● That there is a commitment to maintain the management and monitoring action carried out for at least a period of 5 years ● That the properties are included in the technical prioritization of the adaptation action to be carried out, with clear potential for enhancing climate change adaptation ● Willingness to integrate adaptation measures to climate variability during the restoration process	Initial Criteria to form the basis of the Eligibility Criteria to be applied during execution (by EE)	3.2.1	5

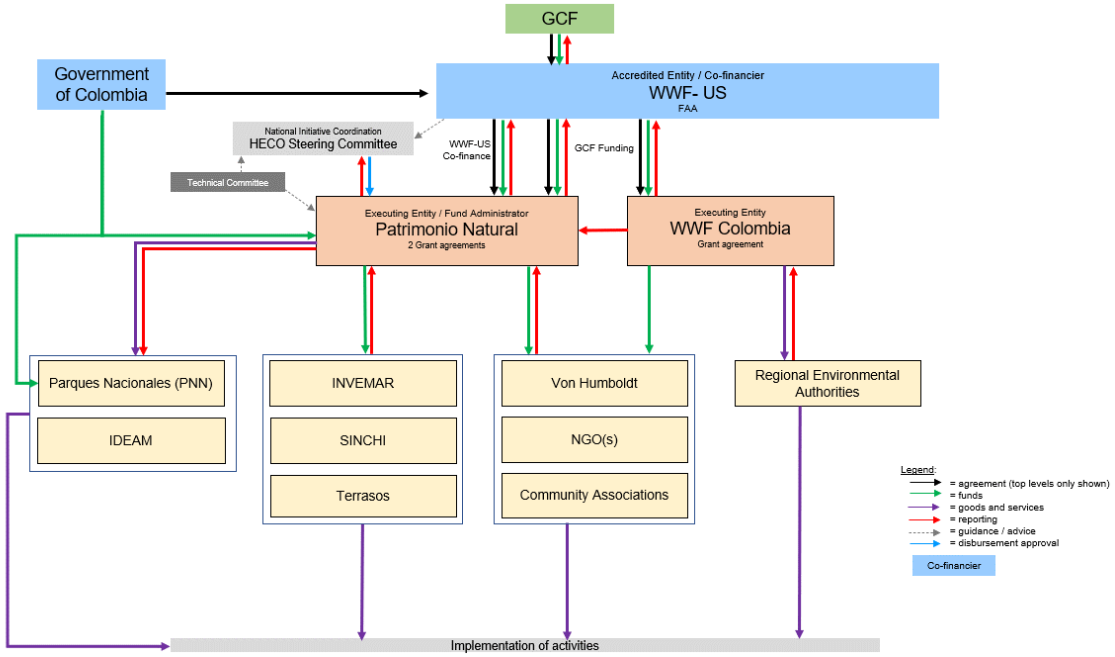

Figure 19. Diagram of flow of funds and contractual arrangements

National Designated Authority

291. The National Planning Department acts as Colombia's GCF National Designated Authority (NDA). They will ensure that activities implemented by the Project align with strategic national objectives and priorities. The NDA will be engaged throughout Project implementation and will be provided with the Annual Performance Report (APR) with details on the status of Project activities and impacts.

Governance Bodies

292. As this Project fits under a larger national initiative, it will nest under the governance of the *HECO Steering Committee* which has oversight over the transition fund created by the HECO PFP. The HECO Steering Committee will ensure future alignment with country goals and that disbursement conditions (Table 15) have been met of the HECO PFP before distributing funds from the transition fund administered by Patrimonio Natural. The HECO Steering Committee was designed to be independent,[127] and will be composed of five representatives. To ensure that the Co-financing governed by this body will flow alongside, and on the same basis as, the GCF Proceeds, (a) the disbursement conditions will be designed to be consistent with any conditions for distribution between the GCF and WWF-US as stated within the Project's FAA, and (b) the AE will have representation on this Committee.

Table 15. HECO Disbursement Conditions

[127] The HECO Steering Committee's independent composition is designed to comply with the Conservation Finance Alliance's Governance Standard 2 ("A governing body's composition is designed so that its members will have a high level of independence and stakeholder representation.") See Conservation Finance Alliance, Practice Standards for Conservation Trust Funds, at 14-15 https://www.conservationfinancealliance.org/practice-standards-for-ctfs.

PA management effectiveness
1. No net loss of protected areas;
2. New protected areas have been created and/or consolidated according to the provisions of the Conservation Plan;
3. Adequate progress of HeCo has been verified by the Steering Committee, in accordance with the Conservation Plan;

Financial commitments
4. The GoC has maintained the baseline of contributions for the operation of SINAP;
5. The GoC procure all available funding sources including resources from Resolution 0505 of May 17, 2022, in which MINAMBIENTE established that for fiscal years 2023 onwards, of the total resources referred to in numeral 1 of article 35 of Law 2169 of 2021, 17.35% of the specific destination of the Carbon Tax shall be used to finance the strategies for the protection, preservation, restoration and sustainable use of strategic areas and ecosystems, seeking to make the contributions provided for in the Financial Model and the Conservation Plan;
6. The resources provided by the Donors have been used in accordance with the Conservation Plan;

Operations
7. Continuity in the compliance of the closing conditions;
8. Adequate financial reports have been received for each Protected Area;
9. The Operating Manual and the performance of HeCo are aligned with the objectives of the Transition Fund, as these are described in the Conservation Plan; and
10. Full compliance with the environmental and social safeguards of the program, as well as with the consultation processes that may arise.

293. A stakeholder engagement body will assist the PMU with work plans, monitoring, reporting, safeguards, and gender mainstreaming in four mosaics (San Lucas is combined with the Caribbean as it developed). PNN will be represented on these committees, which will also bring together participation of community organizations, regional environmental authorities, and other Procured arties or grant beneficiaries. They will be coordinated by the PMU's full-time technical leader for the relevant landscape.

294. The PMU will also have access to Technical Committees, including one to further alignment with Colombia's national priorities and initiatives for climate action, biodiversity conservation, and PA and landscape management. This Technical Committee's membership will include government representatives from the Ministry of Environment and Sustainable Development's Directory of Forests and Biodiversity and Climate Change and the National Planning Department, and it will have access to an advisory group composed of PNN and the National Institute of Hydrology and Meteorology.

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

295. Financing for nature-based solutions for climate change is a severely underfunded market compared to the potential adaptation and mitigation impacts that this market could deliver. As highlighted in the breakthrough journal article Natural Climate Solutions, 20 conservation, restoration and land management actions could deliver as much as 37% of the mitigation impacts required to keep warming below 2°C.[128] Restoration and Avoided Deforestation were the two natural "pathways" credited with the most mitigation potential. Yet despite the large potential of nature-based solutions, land-based sequestration efforts receive only about 2.5% of climate mitigation dollars,[129] demonstrating that available financing for this market has not come close to matching its potential. GCF leadership is needed to validate the nature-based solutions for the climate market, and signal to public and private donors that there are viable investment options that generate both adaptation and mitigation benefits.

296. The PFP approach, which borrows from traditional infrastructure project-financing methodologies, seeks to address many historic barriers to financing nature-based solutions for climate benefits in Protected Areas. Heritage Colombia will use WWF's proven model for securing long-term financing for the effective management of the nation's protected areas network for climate benefits by mobilizing public and private philanthropic investments to reduce deforestation, improve ecosystem management and ensure essential water regulation and provisioning services are maintained. The GCF's participation is central to the model's success, as it:

- Consolidates government's financial commitments behind its ambitious NDCs;
- Validates that nature-based solutions to climate challenges are technically, socially and politically viable through rigorous feasibility and economic analyses;

[128] Griscom et al., Proceedings of the National Academy of Sciences Oct 2017, 114 (44) 11645-11650; DOI: 10.1073/pnas.1710465114
[129] Buchner BK, et al. (2015) Global landscape of climate finance 2015. Available at https://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2015/.
Griscom, Bronson :PNAS October 31, 2017 114 (44) 11645-11650; first published October 16, 2017;

- Reduces other donors' perceptions of risk and draws their financing into a climate adaptation and mitigation project that would otherwise not flow into the Government of Colombia's efforts to meet their NDC commitments.

297. The Government of Colombia has made a strong financial commitment to the HECO PFP and this project, funding 48% of total implementation costs and permanently financing 100% of ongoing costs through the carbon tax - collected from companies producing or importing fossil fuels - and additional financial instruments developed during the life of the project.

298. The carbon tax resources contribute to: i) Implementing SIRAP's strategy for strengthening the governance of the prioritized SIRAPs; ii) Analyzing the technical and legal feasibility for mitigation and adaptation actions in Heritage Colombia's landscape mosaics; iii) Implementing actions to access compensation and investments of 1% of licensed projects; iv) Supporting local communities implementation of management actions based on ecosystems to increase the resilience of protected areas. In sum, the revenues from the carbon tax have already been proven during the design phase to be a fundamental mechanism to address barriers to finance for communities and public agencies for protected area management actions that produce adaptation benefits, primarily water provisioning. After the GCF funding period ends, the Government of Colombia has committed to fund 100% of ongoing costs through the carbon tax and additional financial instruments developed during the life of the project.

299. GCF grant financing has been is the anchor of a coherent package of grant financing from the Colombian government, other multilateral and bilateral donors and private philanthropic donors. With all donors deploying the same financing instrument (grants), concessionality is equivalent among all co-financiers. Landscapes that integrate networks of protected areas are public goods that contribute to the global commons, providing ecosystem services and climate benefits to local, national and global communities. While this project will deliver benefits to all of these levels, Colombia's poorest and most vulnerable populations to climate change – those most directly reliant on natural resources for their livelihoods - are the principal beneficiaries of the level of concessionality that grants provide.

300. Although entrance and other user fees are collected in many national parks, particularly in those that have high tourism potential, no country in the world has been able to manage its protected areas as a financially self-sufficient business. In all cases, protected area systems depend on public budgets and grant financing for a significant proportion of their expenses. This is also the case in Colombia, especially as the country reorients major aspects of its protected areas' system towards management that produces climate adaptation and mitigation benefits.

301. As also described in D.6, Annex 3 includes a financial model to demonstrate the long-term viability of the project interventions using profitability indicators, scenario and sensitivity analyses. The analysis considered a scenario of Project IRR with MFI participation and no GCF Participation, which resulted in a FIRR of 14%. Although positive, this result is lower than the WACC (16.6%), which is used as a discount rate. Therefore, proving an MFI is not an investable scenario.

302. The grant financing structure of this project is required and appropriate for a nascent market such as nature-based solutions for climate, which is still not a fully mature 'bankable' asset class A mature climate finance market such as renewable energy has the advantage of scale from the market's size, a longer implementation history that reduces risks for private investors and an array of financial instruments that generate financial returns for these investors.

303. The market for nature-based solutions by contrast is likely 1% of the annual investment in renewables. Yet even in a more mature market like renewables where public sector investment comprises only 14% of the total annual investment of $322 billion, IRENA confirms that public finance plays an important role in directing investment into sectors and regions that are relatively not mature or hard to invest in. It is this key role that this project has described for the GCF in order to generate the impact potential from Heritage Colombia.

304. Evidence that the GCF investment in Heritage Colombia will accelerate the development of a nature-based solutions market and draw in public and private investment is catalogued in Section C. WWF has secured private philanthropic investment of US$ 33.1 million towards a Heritage Colombia project design that is anchored by the GCF, with GCF proceeds prioritized towards interventions with the most direct link to adaptation and mitigation impacts. Responding to the GCF's market signal, WWF has secured commitments from the largest US philanthropic institutions,

including the Bezos Earth Fund and the Gordon & Betty Moore Foundation. Moreover, the Colombian government's major multilateral and bilateral donors have agreed to incorporate their public funding commitments to the adaptation and mitigation activities described in detail in Annex 4. Without GCF funding, these public investments would have produced valuable outcomes for a range of SDGs, but would not have produced the explicit climate impacts that they now will in a climate project anchored by GCF financing. As can be seen in the table below, grant financing from multilateral and bilateral donors is directed to and well matched for the project's essential activities which would have little potential for attracting private investment or non-grant instruments:

Table 16. Projects that serve as co-financing

Funder	Project	Contribution to the Project
Project Finance for Permanence Transaction	WWF-US has raised philanthropic funds for the Project Finance for Permanence transaction that the GCF Project complements, US$ 33,128,714 of which will qualify under the GCF's Policy on Co-financing as Co-financing for this GCF Project.	This Co-financing will contribute to Activities 1.1.2, 1.1.3, 1.2.1, 1.2.2, 2.1.2, 2.2.2, 3.1.3., 3.2.1, 3.2.3, 3.2.4 and safeguards and monitoring and knowledge management activities.
Republic of Colombia	The Government of Colombia has made a strong financial commitment to the project, funding 48% of total implementation costs. After the GCF funding period ends, the Government of Colombia has committed to fund 100% of ongoing costs through the carbon tax and additional financial instruments developed during the life of the project.	This Co-financing will contribute to governance, restoration, rehabilitation, and management effectiveness of the selected protected areas and landscapes.

305. In that sense, as the project will mobilize public and private investments to increase the climate resiliency benefits generated through ecosystems integrity and functionality, the GCF investment will be fundamental to scaling up climate benefits from improved and effective management of the country's protected areas network and to mobilize and anchor other international donor contributions by de-risking their investment in Colombia's sustainably managed landscapes. GCF's commitment to the Project will provide an additional level of accountability, setting clear benchmarks for success, and bringing to national actions a high standard for delivery on social and environmental safeguards as well as gender mainstreaming.

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

306. The proposed project has been designed in close consultation with and involvement of relevant government agencies at the national, regional and local levels, as well as with community-based organizations in the priority areas. These consultations and discussions (detailed in Annex 7), combined with a model that generates important adaptation and mitigation benefits at a landscape level that are detailed in the Feasibility Analysis (Annex 2), provide a sound approach and suite of interventions which are implemented with strong community participation and engagement of public authorities. Building on this foundation, the project ensures that the investments as well as the results of the interventions are sustained beyond the project period and in the longer-term assure sustainability, scalability, replication of models and sustained long-term financing of the GCF investments.

307. **Institutional sustainability** will be ensured through the continuous involvement of the environmental authorities (Ministry of Environment and Sustainable Development, National Natural Parks and Regional Autonomous Corporations) both in the design and in the implementation of the project tailored to the respective institution's role and responsibility in the different landscape governance schemes. The institutions will be involved in the implementation of activities and will provide technical and governance support for the successful implementation of mitigation and adaptation strategies, the continuous monitoring of impacts in project sites and the dissemination of lessons learned. In addition, their capacities in effective management of protected areas with a focus on climate variability, sustainable use of ecosystem services, management of hydrographic basins and in the use of climate information will be continuously built and strengthened throughout project implementation to ensure that decision-making related to land use planning and ecosystem management during and after project implementation responds to landscape-specific adaptation and mitigation needs and goals.

308. Furthermore, the project will strengthen existing coordination bodies at the landscape level that are explicitly created to enhance climate change adaptation and mitigation, such as the Regional Climate Change Nodes, as well as the Regional Systems of Protected Areas, whose mandate includes to ensure the effective management and connectivity of the regional protected area systems. The project aims to build capacity and enhance the effective functioning of these coordination bodies so they can successfully lead the formulation, articulation and development of

local and regional strategies that promote sustainable landscape planning and adaptive land use practices based on the latest science on climate change impacts and variability. The project also seeks to strengthen their abilities to facilitate interagency coordination, participatory planning processes and the dialogue with local and regional decision-makers around climate change adaptation and mitigation, as well as to develop communication channels between the national, regional and local levels to enhance informed planning processes, including with local communities and private stakeholders.

309. In addition, the project will consolidate partnerships among government and research institutes, including IDEAM, Sinchi Institute, the Humboldt Institute and Invemar, who are the main responsible entities to generate and make scientific data and early warning systems available to different types of users in the landscapes and who will continue to provide updated climate information through the channels that will be set up or consolidated during project implementation. The training materials and knowledge management systems developed during project implementation will enable these scientific institutions to continue providing training programmes on climate change adaptation to different types of users after project implementation.

310. The Ministry of Environment together with National Parks Colombia led the intersectoral approval process of the Policy for the National System of Protected Areas 2021-2030, whose adoption in October 2021 sets up an institutional framework and further strengthens the sustainability of project activities related to governance and participation, as one of the strategies included in the policy is to increase the effective participation of all strategic actors in the different coordination bodies at regional and national levels mentioned above. The policy explicitly establishes that all strategies proposed have to follow the principles of legitimacy, transparency and a gender and intergenerational approach, and to create, adjust and recognize governance arrangements in SINAP management that involve the different stakeholders in decision-making, while recognizing the value of co-responsibility, equity, recognition of cultural diversity, respect and complementarity.

311. **Social sustainability** will be ensured through active participation of different stakeholder groups in planning, implementation, management and monitoring of the project activities. The project seeks the continued dialogue in formal and informal consultations and exchanges and will apply differential communication strategies that consider the context of each stakeholder group and their specific needs to address vulnerability to the impacts of climate change. All engagement processes will be inclusive of women, men, and members of different ethnic groups who may have diverse needs, perspectives, and capacities to participate in decision-making processes. The project aims to create solid organizational structures and to equip local and regional stakeholders with enhanced capacity in effective coordination, conflict management and decision-making processes, which will allow the continuity of activities and participation at the community level after project implementation.

312. The project includes a targeted activity to generate inter-institutional knowledge management processes built on landscape-specific documentation and knowledge gathering, as well as related activity on enabling shared learning processes across the different landscape and institutional levels. A key element of this activity is applying audience-specific storytelling approaches to train specifically women and youth in how to access, use and contribute to climate change information and how to apply it to reduce local vulnerability and enhance co-benefits received from surrounding ecosystems. These strategies of shared generation and training around the use of climate information will enable communities and institutions involved in the landscape management to continue applying climate data and adaptation knowledge after the project is complete.

313. Communities will be trained in and involved throughout project implementation in participatory monitoring processes, will receive targeted training on use and maintenance of basic equipment and feed their collected data into local and regional MRV systems. By engaging them in monitoring activities and providing capacity building on use and application of the collected data, the project will enable the communities to continuously access and use this information in their decision-making processes during and after project implementation.

314. Lastly, by building on traditional systems with innovative climate-resilient approaches and best practices, particularly considering the traditional knowledge of use and management in each prioritized landscape, the project aims to embed targeted adaptation strategies in the existing knowledge systems and land use practices at the community level.

315. Regarding **Operation and Maintenance**, the project will contribute with the provision of equipment for meteorological and biological monitoring, and control and prevention in protected areas and prioritized watersheds. National Parks Colombia, the Regional Autonomous Corporations and the research institutes will be responsible for the operation and maintenance of the equipment throughout and after project implementation. All entities involved are required to have a preventive and corrective maintenance plan in place to ensure proper functioning and enhance the useful life of the purchased equipment. The project will implement substantial training where needed to ensure that responsible staff have the knowledge and capacity required to adequately operate and maintain the purchased equipment.

316. The project will apply an approach of co-responsibility with beneficiary institutions and contribute with the hiring of local professionals and technicians to ensure the adequate implementation of the project interventions. The project aims to hire personnel in regional and local partner institutions, National Parks Colombia and CARs to lead or support the implementation of project activities related to monitoring and research, control and prevention, restoration and land use planning. The personnel plan considers the capacity of both types of institutions to maintain the personnel hired and requires that salaries will be covered by the respective institution after the project has ended. The project's financial exit strategy described below will further enhance the ability of the beneficiary and partner institutions to cover ongoing costs through improved access to royalty revenues under the local and environmental allocations (see below).

317. Long term maintenance of restored areas will be carried out by local community-based associations and women groups, which will be trained in managing nurseries and related activities, so that they can continue future restoration projects in the area. The project will apply a sustainable landscapes approach to restoration and forest management that will ensure that livelihoods will not be substantially impacted or may be complemented through creating alternative livelihood options as incentives. It is expected that Regional Environmental Authorities (Corporacion Ambiental Regional -CAR) integrate restoration strategies as part of their three-year strategic plans and continue with the restoration process in close coordination with communities who are aware and trained to implement restoration processes. Restoration and rehabilitation areas will be implemented alongside each other in individual and community properties. While restoration is focused on restoring original ecosystems, rehabilitation activities always include the strengthening or creation of new sources of incomes through the implementation of sustainable agroforestry or silvopastoral systems in combination with forest enrichment planting, as well as the implementation of targeted adaptation investments to reduce vulnerability of food systems to climate change. Rehabilitation will include planting of commercial agroforestry species that over the short- and long-term will generate income for local communities and small producers in whose properties restoration and rehabilitation will be implemented. As part of our theory of change we aim to establish sustainable and resilience production practices during the project period, so that local communities will have the means and the interest to maintain these ecological arrangements.

318. A central goal of the project is to ensure long-term financial sustainability of the project outcomes. To this end, the project includes in its design and work plan a "Project Finance for Permanence" (PFP) approach, similar to the one applied in Bhutan for Life (GCF FP050). This project is applying an innovative approach of durably securing financing for PA systems and adjacent conservation areas within landscapes: the PFP model. While PFPs are designed to leverage funding from donors and increase the level of funding commitments from the government of the country towards shared goals and outcomes during implementation, the more important aspect of this is that it seeks to build a portfolio of long-term sustainable financing mechanisms that channel financial resources from a diverse set of public and private sources to maintain the mitigation and adaptation results achieved during project implementation and ensure the sustainability of project outcomes after the project is complete (see Figure 20).

319. In the case of this project, the annual long-term financial gap to maintain impacts achieved over time is projected at nominal US$ 7.2 million for year [115]. The drop in investment is mainly related to a phasing out of capacity building activities, of project monitoring activities, project-specific safeguards and PMC costs, the completion of restoration and rehabilitation activities and of construction work by the end of the project, among others. The long-term gap includes maintenance of equipment and infrastructure acquired during implementation, maintenance and continued monitoring of carbon plots, salaries of staff contracted for long-term purposes at beneficiary entities (e.g., protected area staff, staff for territorial entities and research institutions), travel and operating budgets to continue monitoring and control and vigilance, as well as budget to continue recurring meetings among stakeholders to ensure coordination for land use planning and climate management.

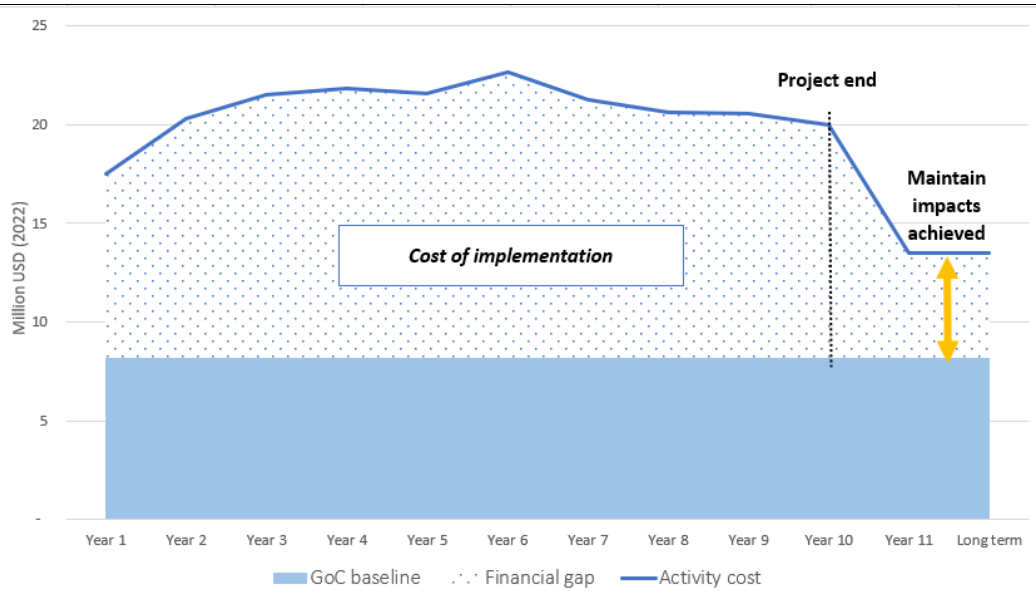

Figure 20. Long-term financial needs to maintain project outcomes and impacts achieved

320. As a first step towards securing financial sustainability, a feasibility analysis of 11 financial instruments was developed that showed initial potential to contribute to the program objectives (see Annex 2 for a description of the analysis). These instruments were analyzed in a multi-criteria prioritization exercise that evaluated, among others, accessibility for different stakeholders in the landscapes, potential amount and continuity of resources generated or channeled, legal feasibility, level of administrative complexity, time needed to implement mechanism or access funding, scalability across landscapes, political opportunity, and risks of implementation.

321. Based on the results of the analysis, the project partners prioritized two main sustainable financing mechanisms to ensure meeting financial needs after project completion over the long term: The General System of Royalties (Sistema General de Regalias or SGR) and the recently established national carbon tax.

322. The General Royalties mechanism was selected based on the magnitude of available and untapped resources, the existence of a legal framework - with considerable longstanding stability - to access these resources for environmental and climate purposes by different project stakeholders, its potential for scalability and replicability across the five mosaics and the fact that resources would not be diverted from other purposes, such as sustainable development.

323. The SGR originated in Colombia's Political Constitution of 1991, which states that royalties are "a state-owned economic compensation arising from the exploitation of a non-renewable natural resource, administered under a structure that allows efficient use of the collected resources." Royalties are generated from exploitation of petroleum and mineral resources and are intended to channel resources to develop regional projects that contribute to economic, social and environmental restoration in the territories guaranteeing the maintenance of natural resources.

324. With the reform established in Law 2056 of 2020 of the SGR, a specific resource allocation is now being given to environmental conservation providing an important opportunity to fund the implementation of a sound and climate-focused landscape approach. This recent change in federal law has opened a major window of opportunity to tap into the available resources under this mechanism to secure long-term funding for climate mitigation and adaptation, as the law now establishes a specific fixed allocation of resources towards environmental and climate purposes, thereby increasing its potential for scalability and replicability across the five mosaics.

325. This policy change created a specific allocation to environment and climate change to finance conservation projects in strategic areas as well as the national strategy to reduce deforestation. In addition to this specific allocation for environment and climate change, the law now establishes that at least 2% of the resources in the Local Allocation and the Science, Technology and Innovation Allocation, should be invested in environmental and sustainable

development projects. Therefore, under the new regulation a total of 5% of the SGR is legally allocated and must be used to finance environmental, climate and sustainable development projects.

326. The project aims to mobilize resources coming from the following allocations under the SGR: 1) local investment allocation (2% of the allocation under this account): mobilized towards the implementation of environmental and sustainable development projects by local territorial entities in partnership with environmental authorities; 2) Environmental allocation (1% of the total biennial allocation under the SGR): Mobilized towards strategic environmental areas and the national actions against deforestation. According to Law 1942 of 2018 and Law 2072 of 2020, the total amount of royalties allocated for the biennia 2019-2020 and 2021-2022 were US$ 5 billion and US$ 4 billion, respectively. With approximately US$ 2 billion in allocations per year, there is a potential US$ 112 million to environmental and climate purposes. Despite the high amount of potential resources the SGR under its existing regulation, local entities and environmental authorities have shown a lack of technical capacities in territorial entities to identify priorities, formulate projects and a limited familiarity and knowledge of the SGR structure and processes.

327. In order to guarantee a long-term financial strategy for project investments and address the issue of access to these funds, the project will support and strengthen the capacities of regional and local governments in the priority landscapes to successfully develop project proposals to access financial resources available through the SGR under the local investment allocation (1) towards climate adaptation, sustainable water resource management and climate change mitigation priorities, as well as (2) work with partner institutions at the national level to strategically allocate and implement resources under the specific environmental allocation. The project will implement the following specific activities:

i. The environmental and sustainable development component of the local investment allocation (2%) is directed to environmental investment projects that promote social, economic, institutional and environmental development within territorial entities. According to public sources, for the 2021-2022 biennium the budget allocation for environment and sustainable development for the departments in the project area oscillates between US$ 28 and 29 million. To access their allocated resources, territorial entities must formulate projects that are presented for approval to the OCAD, a board made up of all the Local Allocation's beneficiaries in a certain region. Due to the lack of technical capacities in territorial entities to formulate projects and the general limited familiarity and knowledge of the SGR structure and processes, the average historical approval rate is only 35% for the departments in the prioritized. The remainder of the funds stays unused and is reassigned in following biennial allocations according to publicly available data (National Planning Department - DNP). Hence, through capacity building in understanding how to access royalties' funds and by providing technical assistance for proposal development to public entities, the project aims to increase the approval rate and with that the actual expenditure under this allocation. The project estimates conservatively to achieve an annual increase of 1% in the effective expenditure towards environmental conservation activities starting in year 5 of the project, to a total increase of 7% by year 11 (after completion), which will help to ensure financial sustainability of project interventions. Strengthened local and regional authorities will lead project development, will receive the resources and are accountable for their implementation over the long term.

ii. The environmental allocation (1%) is to be mobilized towards strategic environmental areas and the national actions against deforestation. The project will support the Ministry of Environment and the National Planning Department in the development of the national strategy for protection of strategic environmental areas, providing key inputs regarding geographic priorities based on the project's climate rationale and projections to ensure that part of the available resources will be directed to the project's target landscapes as key sites to contribute to the national climate adaptation and mitigation goals. This allocation has only been recently established under the SGR and will be based on a call of proposals. According to current information, the Ministry of Environment will establish a biennial call for proposals plan that will be open to all natural persons and legal entities that meet the minimum requirements, including research institutes and other partner organizations involved in the project. When approved, those entities will receive the resources and will be accountable for the implementation of the projects.

iii. The project will support the approval for 6 environmental projects during project implementation throughout technical assistance and build capacities among beneficiary entities. This will enable entities to continue successfully to submit projects after project completion of the project.[7]

328. The second mechanism prioritized to ensure long-term financial sustainability after project completion is the national carbon tax. The carbon tax was established through Article 223 of Law 1819 of 2016 and is based on the carbon content of fuels used for energetic purposes and is charged when these fuels are sold inside national territory, used or imported for self-consumption.

329. According to the latest reform (article 86 of PL 118 of 2022 (Chamber)/131 of 2022 (Senate)), 80% of the carbon tax is allocated to investments in coastal erosion management; the reduction of deforestation and its monitoring; the conservation of water sources; the protection, preservation, restoration and sustainable use of strategic areas and ecosystems through reforestation programs, restoration, and Payments for Environmental Services; the promotion and encouragement of the conservation and sustainable use of biodiversity; and climate action including the country's NDC.. For 2023, these resources will be managed by the National Environmental Fund (FONAM), a fund of the Ministry of the Environment, and thereafter by the Fund for Sustainability and Climate Resilience (FONSUREC), a new trust fund to be created as a new vehicle to receive and use carbon tax allocations..

330. Due to the strong alignment between the project activities and national government priorities for conservation and climate change mitigation, the government committed a minimum of US$ 3M per year throughout project implementation from carbon tax revenues[130].

331. For the same reason of alignment between project and government priorities, it is expected that the government will maintain the investments made and results achieved during project implementation and fund eligible activities of up to nominal US$ 4.7 million starting in year 11 within the identified overall gap to maintain project impacts achieved. Eligible activities are those that help to ensure continued effective management of public protected areas, coordination mechanisms at the landscape level and the functioning of the supported SIRAPs (Figure 21).

332. In parallel, the enhanced access to revenues through the SGR by territorial entities, such as CARs and municipalities, and their local community partners will enable this group of beneficiaries to cover ongoing financial needs to maintain coordination and monitoring efforts supported by the project and enhance project outcomes achieved at the landscape level. In addition, research institutions partnering in the project will be able to access funding through the Environmental account of the SGR to maintain and scale monitoring efforts supported by the project. In total, revenues from the SGR are projected to cover at least nominal US$ 2.9 million of the annual need identified to maintain project results, starting in year 11.

333. The average annual funding flows of the two prioritized mechanisms combined will ensure the financial sustainability of project outcomes over the long-term (Figure 21).

334. Under a time-frame of 20 years after project implementation ends, the project investments would leverage an approximate nominal amount of $US 221 million from SGR and carbon tax funding allocated to maintain the impacts achieved by the project over the long-term.

[130] In Resolution 0505 of May 17, 2022, MINAMBIENTE established that for fiscal years 2023 onwards, of the total resources referred to in numeral 1 of article 35 of Law 2169 of 2021, 17.35% of the specific destination of the Carbon Tax shall be used to finance the strategies for the protection, preservation, restoration and sustainable use of strategic areas and ecosystems, seeking to make these committed contributions.

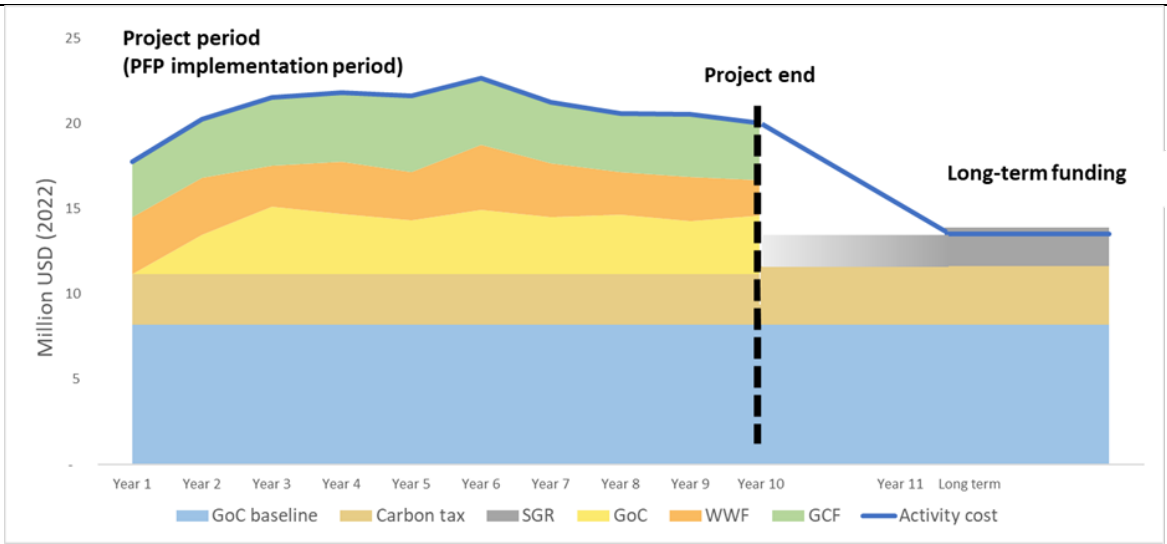

Figure 21. Carbon tax allocation and revenues from the General System of Royalties will enable public entities and project partners to cover long-term financial needs to sustain project outcomes and impacts.

335. Complementary to these two prioritized mechanisms, the project will coordinate with parallel interventions funded by WWF that seek to enhance financial flows from environmental offsets and forced compensation investments of no less than 1%, as well as from an expansion of the environmental toll surcharges towards priority landscapes and activities. These instruments have been prioritized in the mentioned prefeasibility study of 11 mechanisms and were selected based on their legal feasibility, thematic scope and their potential to fund and contribute to the sustainability of the activities of the overall HECO program, especially biodiversity conservation, effective management of protected areas and restoration. They will be implemented in the priority landscapes to scale landscape management contributing to ecosystem resilience, emissions reduction and water regulation If either of the two prioritized financial mechanisms for this project performs below expectations, the AE retains the right to reprioritize the financial mechanism(s) selected for GCF investment as part of its adaptive management strategy. The complete removal and replacement of the SGR or carbon tax as financial mechanisms or a drop of more than 50% from the projected revenue (in the approved FP) of any one would be considered a major change. In such an event, the AE would advise which of these three mechanisms should replace one of the original two.

336. Environmental offsets are a key instrument to ensure that residual impacts caused by construction and operation of projects on natural ecosystems, secondary vegetation and associated ecosystem services can be compensated through implementation of ecosystem restoration or conservation actions in places equivalent to the affected ecosystems. Environmental offsets are implemented directly by the companies that hold an environmental license and in accordance with the compensation plan that is approved and monitored by the National Agency of Environmental Licenses (ANLA), an entity under the Ministry of Environment.

337. The compulsory investment of no less than 1%, an instrument establishes that all projects that take water from natural sources are obliged to invest no less than 1% of the total cost of the project in conservation of water resources. This mechanism has its origin in the first paragraph of article 43 of Law 99 of 1993, where it is presented as a measure to support management and regulation of water resources. According to Decree 2099 of 2016 and article 174 of Law 1753 of 2015 that modifies article 108 of Law 99 of 1993, these resources can be used for the acquisition of properties and /or improvements in areas or ecosystems of strategic interest for the conservation of natural resources, as well as in protected areas that are part of the SINAP. The compulsory investment of no less than 1% are implemented directly by the companies that hold an environmental license in accordance with the compensation plan that is approved and monitored by the National Agency of Environmental Licenses (ANLA), an entity under the Ministry of Environment.

338. Both compensation schemes have the potential to mobilize resources towards the HECO program's long-term needs by funding conservation and sustainable use of natural resources investment projects within the landscapes. Nevertheless, implementation of environmental offsets and compulsory investment projects face several obstacles such as: 1) the lack of publicly available information and information management systems for stakeholders to consult, 2) insufficient capacity of environmental authorities to monitor and evaluate the projects process of approval and

implementation, 3) lack of eligible property and aggregated investment portfolios to allow for efficient investments of compensation resources (eligible ecosystems in areas with legally established land ownership, etc.), 4) low levels of coordination between national and regional environmental authorities and lacking alignment with territorial planning instruments and 5) lack of guidelines for companies to develop compulsory investment of 1% projects. In order to address these challenges, activities to support coordination between environmental entities, ensure sufficient staffing of these entities and prepare clear guidelines for project developers need to be implemented. In parallel, project portfolios of aggregated lands with clear land titles that are ready for investment for project developers need to be developed. This would generate a nominal annual funding flow to project priority places and eligible activities of between US$ 2.4 million (for environmental compensation) to US$ 3.4 million (for compulsory investments) in year 11.

339. Law 981 of 2005 established the environmental toll surcharge as a compensation mechanism for negative impacts on vegetation and ecosystem services that stems from current or planned road construction. It applies to roads that are close to or located in regional conservation and protection areas, RAMSAR sites or wetlands of international importance defined in Law 357 of 1997 and biosphere reserves, as well as their respective buffer zones. The current law establishes that resources are collected in the toll station and paid by the concession holder, usually a private company and are transferred to a sub-account managed by the corresponding environmental authority. The resources collected by the environmental toll surcharge are allocated to the execution of conservation plans, programs and projects, including the development of sustainable production systems of communities living in and around national parks. Currently, the toll surcharge is in place only in the Caribbean landscape for the Tucurinca toll station. The proposed intervention by National Parks Colombia is to expand the application of a 5% surcharge to toll stations in all HECO priority landscapes where road construction and traffic generate disturbance and negative impacts on protected areas and nearby communities. This could include up to eleven potential additional toll stations that all together could generate nominal US$ 3.3 million in year 11 towards project priority sites and eligible long-term activities.

340. Figure 22 and Figure 23 present two alternative scenarios of how these three potential mechanisms could help cover the project long-term gap if one of the two prioritized mechanisms under the project, carbon tax or General Royalties, would underperform or become unavailable to cover long-term costs to maintain the achieved impacts.

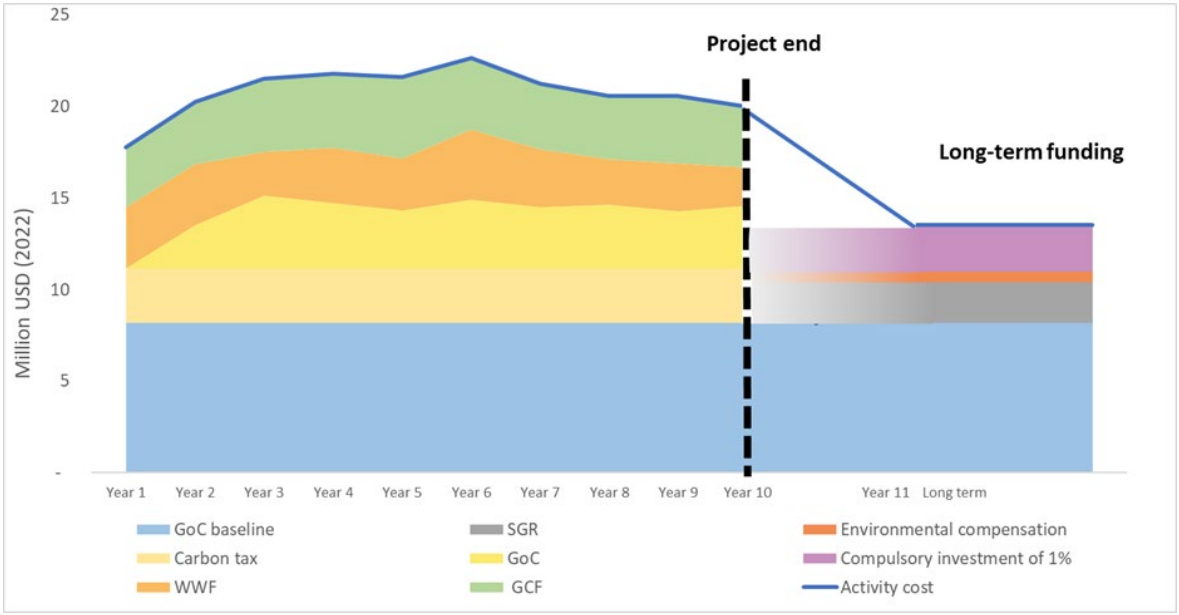

Figure 22. Alternative long-term funding scenario with compulsory investments, environmental compensations and resources from General System of Royalties will enable public entities and project partners to cover long-term financial needs to sustain project outcomes and impacts.

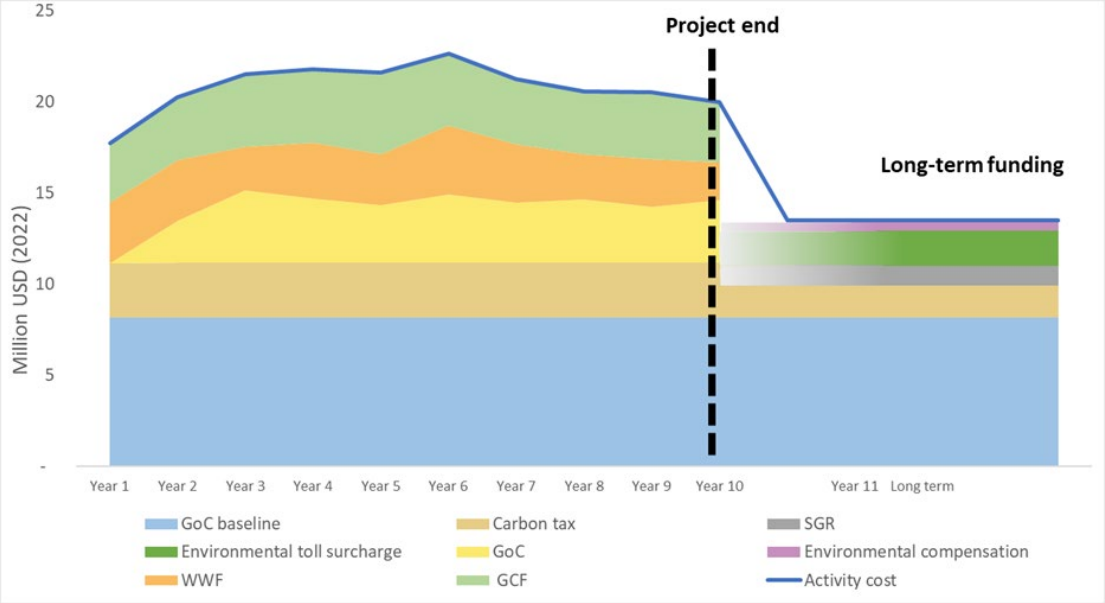

Figure 23. Alternative long-term funding scenario with environmental compensations, environmental toll surcharges and resources from General System of Royalties will enable public entities and project partners to cover long-term financial needs to sustain project outcomes and impacts.

341. In addition, WWF is working closely with National Parks Colombia to develop ecotourism plans for selected protected areas and adjacent communities with significant visitor potential. The efforts to develop sustainable local enterprises and an appropriate ecotourism offer to generate resources for protected area management and to enhance local livelihoods is still in the early stages and therefore considered a complementary effort to this project at this moment.

342. In parallel to the support provided by WWF, National Parks Colombia is analyzing the feasibility of new financial mechanisms with the objective to generate increased recurrent funding to enhance effective management and increase ecosystem connectivity of SINAP. The prioritized mechanisms include the improvement of the entrance fee system and scaling ecotourism concession participation, the redirection of part of water user fees currently collected by CARs to National Parks, where a significant share of regional water provision is secured and provided by a protected area; the compensation of municipalities with a protected area within their jurisdiction for lost property taxes through the General System of Participations to be used for conservation purposes, among others.

343. Additionally, the project will coordinate its interventions in the prioritized landscapes with existing projects such as the GEF Heart of the Amazon and FAO-EU “Territorial Governance in a Sustainable, Productive and Resilience Landscape”, which aims to design and develop a leverage and resource allocation strategy, promoting bankable projects and establishing a monitoring and evaluation system for financial flows within two of the prioritized landscapes (Andes Central and the Caribbean).

344. While this Project focuses on addressing enabling conditions, including participatory governance, strengthening decision-making processes and gender inclusion at the community level, capacity-building in including climate information in local production and landuse planning, and generating relevant market readiness data on replicable and scalable investment opportunities with measurable positive and regenerative impacts on ecosystem services and climate resilience, parallel finance from the HECO Investor Hub (Leticia Platform) will become available during the second half of the project term. These funds will be allocated to finance profitable ventures that seek to improve landscape and water management and reduce pressures on the protected area and will help to ensure financial sustainability of GCF investments not absorbed by the Government and mentioned financial mechanisms. The platform will provide additional opportunities to secure investment for communities and small producers that benefit during project implementation from rehabilitation and local adaptation measures inside and around protected areas (activities 3.1.3 and 3.2). The HECO Investor Hub is a digital platform designed to match sustainable development projects in HECO mosaics with investor funding. It is currently under development by WWF and IDB, and will be ready to be deployed to channel private sector funding to sustainable production, rehabilitation and reforestation projects in HECO

program corridors, by 2023. The HECO Investor Hub and impact model framework for investment have been designed with an investment thesis that aims to foster innovative financial mechanisms to de-risk productive projects in prioritized landscapes that promote behavioral change towards conservation and sustainable management of nature's contribution to people to contribute to a resilient landscape approach. The impact investment framework aims to achieve the following outcomes that will support sustainability: capacity building and support to businesses in communities to enhance projects sustainability, generate economic incentives for communities to implement climate change resilient productive projects and strengthen productive alternatives that ensure appropriate land use and responsible water use.

345. On the other hand, related with the potential of bioeconomy as a business alternative that favors sustainable and climate-resilient economic development, it is worth highlighting that the Inter-American Development Bank's recently approved Bioeconomy Amazon Program (GCF FP173) that will promote a more sustainable and resilient Post-COVID 19 recovery, foster sustainable economic development models and diversify the productive matrix and generate added-value in sustainable agriculture in the Amazon for the next five years. The initiative will provide US$ 20 million in seed capital and US$ 53 million in technical cooperation to mobilize private investment in natural capital and sustainable forest assets and will be implemented in close coordination with the Amazonian countries and the Amazon Cooperation Treaty Organization (OCTA). The IDB will work hand in hand with partners from the private sector, non-governmental organizations, and funds such as the GCF and the GEF to adopt more modern, productive and inclusive development models, increase financial inclusion of communities, improve livelihood conditions, reduce vulnerability to climate change and promote sustainable management of biodiversity and ecosystem services. Specifically, the initiative will focus on four thematic areas: 1) the bioeconomy; 2) sustainable management of agriculture, livestock and forests; 3) human capital and 4) sustainable cities and infrastructure. According to the IADB each of these four thematic areas integrates three essential themes: institutional strengthening, with an emphasis on the efficient use of resources and the creation of fiscal space; the integration of gender and diversity; and forest conservation; these aspects are essential to guarantee the sustainability of the HECO program.

346. Lastly, in terms of political sustainability, the development of long-term climate policy strategies such as the Long-Term Climate Strategy of Colombia to comply with the Paris Agreement (E2050) will ensure the continued strengthening of institutional and financial capacities, not only fundamental to guarantee the compliance of international commitments, but also to guarantee the longer-term sustainability of the project investments.

347. As a national policy instrument, the E2050 will guide the development of climate-related decision-making of the subsequent governments. However, according to this Strategy, knowledge of risks and related vulnerabilities constitutes one of the main limitations for the effective climate change management in the country, as every day more data and more information are required for decision-making and budget allocations are increasingly limited. By improving participatory generation and use of climate information for territorial planning and by introducing improved systems for dissemination of usable climate information to climate-vulnerable populations, the project will enable and strengthen the decision-making process at the national and local level, particularly in institutions such as the IDEAM and other research centers, such as Humboldt Institute, Sinchi and Invemar Institute. This strengthening in the long-term decision-making process, its articulation with the E2050 policy, the fostering of inter-institutional arrangements and the continued participation and engagement of the Ministry of Environment will provide the project with a long-term approach.

348. At the same time, the E2050 establishes long-term financial instruments to achieve the goals set in most of the commitments from now until at least 2050. Among some instruments mentioned in the Strategy, the following stand out: Emissions Trading System, renewable energy auctions and investment funds for the bioeconomy. The project creates enabling conditions for local and regional implementation of these mechanisms through building increased capacity for adaptation and enabling risk reduction to extreme hydrometeorological phenomena through the restoration of protected natural areas, ancestral collective territories, and multifunctional landscape landscapes.

C. FINANCING INFORMATION

C.1. Total financing

(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)	Total amount	Currency
	43	million USD ($)

GCF financial instrument	Amount	Tenor	Grace period	Pricing
(i) Senior loans	Enter amount	Enter years	Enter years	Enter %
(ii) Subordinated loans	Enter amount	Enter years	Enter years	Enter %
(iii) Equity	Enter amount			Enter % equity return
(iv) Guarantees	Enter amount	Enter years		
(v) Reimbursable grants	Enter amount			
(vi) Grants	43			
(vii) Results-based payments	Enter amount			

(b) Co-financing information	Total amount	Currency
	102.2	million USD ($)

Name of institution	Financial instrument	Amount	Currency	Tenor & grace	Pricing	Seniority
Government of Colombia	Grant	69.4	million USD ($)	Enter years Enter years	Enter%	Options
WWF	Grant	32.8	million USD ($)	Enter years Enter years	Enter%	Options

(c) Total financing (c) = (a)+(b)	Amount	Currency
	145.2	million USD ($)

(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)

Please explain if any of the financing parties including the AE would benefit from any type of guarantee (e.g. sovereign guarantee, MIGA guarantee).

Please also explain other contributions such as in-kind contributions including tax exemptions and contributions of assets.

Please also include parallel financing associated with this project or programme (refer to the co-financing policy).

C.2. Financing by component

Please provide an estimate of the total cost per component and output as outlined in section B.3. above and disaggregate by source of financing. More than one co-financing institution can fund a single component or output. Provide the summarised cost estimates in the table below and the detailed budget plan as annex 4.

Component	Output	Indicative cost million USD ($)	GCF financing		Co-financing		
			Amount million USD ($)	Financial Instrument	Amount million USD ($)	Financial Instrument	Name of Institutions
1. Governance structures for climate responsive planning and development	1.1. Inter-institutional governance strengthened in targeted landscapes	7.47	NA	Choose an item.	2.63 4.84	Grants	Government of Colombia WWF

improved and implemented	for improved climate-informed and integrated land and water planning						
	1.2 Community governance with SINAP and within connectivity corridors strengthened to improve climate-informed land and water use	13.54	0.19	Grants	7.78 5.57	Grants	Government of Colombia WWF
	1.3. Increased investment of revenues from royalties in targeted landscapes for improved and sustainable climate-informed land and water use	1.81	1.77	Grants	0.04	Grants	Government of Colombia
	MEL	0.64	0.64	Grants	NA		
2. Participatory monitoring systems generate climate information used for improved decision-making in territorial planning	2.1. Participatory monitoring systems established by national and regional environmental authorities to generate climate-relevant data needed for improved decision-making	13.63	5.95	Grants	7.55 0.14	Grants	Government of Colombia WWF
	2.2. Improved application and use of climate information in territorial planning and local decision-making to reduce carbon emissions and strengthen adaptive capacity	4.61	1.50	Grants	2.20 0.91	Grants	Government of Colombia WWF
	MEL	0.02	0.02	Grants			
3. Land and forest management	3.1 Management of protected	66.73	11.02	Grants	43.49	Grants	Government of Colombia

improved and restoration implemented to reduce carbon emissions and strengthen adaptive capacity of vulnerable communities	areas improved to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits				12.23		WWF
	3.2 Management practices improved in protected area buffer zones and connectivity corridors to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits	20.09	12.00	Grants	5.71 2.38	Grants	Government of Colombia WWF
	ESS	5.11	4.19	Grants	0.92	Grants	WWF
	MEL	4.72	3.80	Grants	0.93	Grants	WWF
Project management costs		6.77	1.90	Grants	4.87	Grants	WWF
Indicative total cost (USD)		145.15	42.97		102.18		

This table should match the one presented in the term sheet and be consistent with information presented in other annexes including the detailed budget plan and implementation timetable.

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 ☒ No ☐
C.3.2. Does GCF funding finance technology development/transfer?	Yes ☒ No ☐

349. The project will make a significant investment in capacity building and technology development/transfer to protect forests, reduce deforestation and land degradation and improve ecosystem management while reducing GHG emissions and improving participatory management of protected areas in Colombia. Capacity building and technology development/transfer will occur at the institutional level and local level with communities. This includes capacity building to improve the Inter-institutional governance, community governance with SINAP, and increasing investments of revenues from royalties in the targeted geographies for improved land and water use. Additionally, the project will invest in technology development to improve participatory generation and capacities to generate that information as well as capacities to improve the uptake of the climate data generated. Lastly, the project will invest in capacity building related to effective management practices in protected areas, buffer zones and connectivity corridors to arrest deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits.

350. The total amount of GCF funding used to finance capacity-building activities and/or technology development/transfer is US$ 11.7 M. This includes the establishment of monitoring

systems by IDEAM and national and regional environmental authorities to generate climate-relevant data needed for improved decision-making, and the improved participatory generation and use of climate information for territorial planning and local decision-making in activities 2.1.1, 2.1.2, 2.2.1 and the capacity building within activities 1.2.2, 1.3.1, 3.2.3.

Table 17. GCF funding for capacity-building activities and/or technology development/transfer.

Activity	**GCF total funding (US$)**
1.2.2 Strengthen the capacity of local communities and their understanding of climate change, incorporating indigenous knowledge and gender responsiveness	189,277
1.3.1 Improve access and revenue generation of royalties (regalias) to climate responsive planning and development within the project landscapes	1,765,584
2.1.1 Expand the coverage of hydro-meteorological data collection for improved management of targeted landscapes (including protected areas) and affected vulnerable populations	2,274,137
2.1.2 Collect climate-relevant parameters from the interaction between remote sensing data and field work in high elevation wetlands (paramos) and forests and integrate it into local and national monitoring and evaluation systems	3,672,766
2.2.1 Incorporate landscape- and local-level data into national systems for climate monitoring and evaluation (e.g., SMByC, SIM-SINAP, SIIVRA)	1,499,995
3.2.3 Augment available information on productive sectors, financial flows and investable biobusinesses that support climate and nature positive outcomes in HECO's mosaics and attract capital from investors	1,205,522
Total	**10,607,281**

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)

351. This project will have significant impact in the Fund's objectives in mitigation and adaptation, through a multi-pronged approach that will both strengthen institutions at national, regional, and local scales and increase household capacities to plan for and manage the impacts of climate change through increased access to relevant climate information; while significantly avoiding future carbon emissions. Centered on the country's protected area system for its essential role in provision of ecosystem services critical to national, regional, and local climate change policy and sustainable development objectives and household resilience, the project will reduce deforestation and land degradation, improve ecosystem connectivity, maintain and enhance carbon sequestration and water provision and regulation, and restore and rehabilitate ecosystems to reduce risks for increasing climate hazards through an integrated landscape management approach.

352. The project geographies - four mosaics for implementation of rehabilitation, restoration, on-farm adaptation, and capacity building to improve landscape management, and the designation of the new protected area of San Lucas Mountains - were chosen explicitly for their adaptation and mitigation impact potential.

353. The project aims to deliver impacts against three results areas in these mosaics: (i) Increased resilience of most vulnerable and communities; (ii) Improved resilience of ecosystems and ecosystem services (as well as livelihoods); (iii) Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks (see B.1 and Annex 2 for full descriptions of methodology for screening mosaics to prioritize landscapes with greatest mitigation and adaptation potential). The project seeks to deliver mitigation estimates from: avoided emissions from avoided deforestation, preserved removals from sinks from carbon stocks not deforested and expected to remain and expected removals from restoration and implementation of agroforestry and silvopastoril systems. Project interventions focused on addressing the drivers of deforestation are anticipated to generate greenhouse gas emission reduction and removal benefits equivalent to 8.87 million t CO_2eq in 10 years and 46.3 million t CO_2eq[131] from reduced deforestation, forest restoration and preserved sinks over 30 years. The project will place 2.86 million hectares of land under effective management via existing and newly established protected areas. Cost estimates for the project's mitigation impact are presented below.

Table 18 Costs per ton of expected tonnes of carbon dioxide equivalent (t CO2 eq)

GCF Investment Cost	US$ 42 974 559
Co-finance Investment Cost	US$ 102 177 950
Total Investment Cost	US$ 145 152 510
Expected tonnes of carbon dioxide equivalent (t CO2 eq) to be reduced or avoided (lifetime)	46 280 730
Expected tonnes of carbon dioxide equivalent (t CO2 eq) to be reduced (lifetime)	41 143 485
Expected tonnes of carbon dioxide equivalent (t CO2 eq) to be removed and avoided (lifetime)	5 137 245 [4,913,252 t CO2 emissions removals from restoration, silvopartoril and agroforesry systems + 223,993 t CO2 eq preserved sinks resulting from avoided deforestation]
Total Investment Cost / expected lifetime emission reductions and removals (USD/ tCO2eq)	US$ 3.14
GCF Investment Costs / expected lifetime emission reductions and removals (USD/ tCO2eq)	US$ 0.93
Total Investment Cost / expected lifetime emission reductions (USD/ tCO2eq)	US$ 3.53
GCF Investment Costs / expected lifetime emission reductions (USD/ tCO2eq)	US$ 1.04

[131] While the mitigation impact is contingent on the SGR and carbon tax, they do not require regulatory approval . To access to these resources, there is a need to implement the administrative processes already defined for each of these instruments. (Described in Annex 3.)

Investment Cost of removals / expected tCO2eq sequestered/removed (USD/ tCO2eq)	US$ 9.40

354. The project aims to significantly improve access to and use of climate risk information to guide multiple project interventions to improve landscape management, including: updating 64 protected area management plans to including climate change adaptation strategies; 18 monitoring programs strengthened, including 7 for national parks, 5 regional monitoring initiatives led by environmental authorities, and 6 river basin early warning systems, including the training of 150 community members and 90 public staff, overall aiming to reduce by 50% the damages of increasing climate extremes compared to the historic baseline (according to the Desinventar Sendai Framework database, per mosaic); and the full adoption and implementation of 10 governance mechanisms for the incorporation of adaptation and mitigation into regional territorial planning.

355. Project interventions focused on adaptation, including direct beneficiaries of on-farm improvements of adaptive capacity and resilience to climate extremes, increased capacity for using climate information and managing climate risks and sustainable land uses, and restoration and rehabilitation to reduce landslide and flooding risks would directly benefit 329,658 people, representing .65% of the population. Ecosystem based adaptation interventions will specifically target 6,602 hectares in protected areas and 945 ha in buffer zones to reduce risks for landslides and flooding. The indirect benefits of these interventions are more substantial, due to interventions protecting and maintaining ecosystems that provide critical resilience benefits including water regulation and supply to entire urban populations in larger watersheds, with total indirect beneficiaries of 16,944,180 people representing 33% of the total population.

Table 19. Direct and Indirect Project Beneficiaries by sex.

Mosaic	Direct Beneficiaries	Men	Women	Indirect Beneficiaries	Men	Women
Caribbean	134,273	65,560	68,713	2,023,489	987,990	1,035,499
Central Andes	178,672	87,239	91,433	3,568,431	1,742,325	1,826,106
Orinoco Transition	3,258	1,591	1,667	10,381,594	5,068,926	5,312,668
Heart of Amazon	6,521	3,184	3,337	237,751	116,085	121,666
San Lucas	6,934	3,386	3,548	403,257	196,895	206,362
Total	**329,658**	160,959	168,699	16,614,522	8,112,220	8,502,302

Methods for Assessing Mitigation and Adaptation Benefits

356. Emissions reductions targets have been set depending on the specific historical emissions observed in each implementation component as explained in Annex 22.b. All emissions reductions estimates use methods completely in line with Colombia's FREL 2021 submission to UNFCCC. Restoration and Rehabilitation targets have been set based on set numbers of intended hectares per mosaic and intervention approach (see Annex 22 b, AF, S and R). Removals are not considered under Colombia's 2021 FREL. Removal estimates for restoration and rehabilitation follow IPCC 2006 guidelines; with removal factors used from the 2019 refinement. Removal rates used were those of natural regeneration (IPCC guidelines Table 4.9, Volume 4 AFOLU). In the case of rehabilitation, Silvopasture and Agroforestry removal rates were estimated based on factors in table 5.1. Cropland IPCC guidelines. Sink removal rates came from table 1 in Hubau et al (2020) for the period 2020-2030 for the Amazon region.

357. Direct beneficiaries are defined as the number of people living in the project implementation places using two primary sources of population data: current descriptions from the management plans for specific protected areas; and the last population census (DANE 2018) updated landscan dataset (with 1km^2 pixels). These total direct beneficiaries are 329,658 inhabitants distributed among 160,959 men and 168,699 women,

benefitting from a suite of services related to water regulation and provision and their relationship to hazards like flooding, drought, and landslides: maintenance of water flows to address increasing seasonal and annual variability and scarcity; and regulation of runoff and flows from increasingly extreme rainfall events, reducing localized and downstream flooding, erosion, and landslide incidence and risk. They will be measured through a combined geospatial and biophysical approach, where remote sensing data (satellite) will be used to measure land cover change resulting from improved governance, PA management, and restoration and rehabilitation interventions (compared to a project baseline) at year 5 (interim) and 10 (final). This measured change in land cover will then be used to analyze ecosystem services benefits of water regulation, provision, and landslide and flood hazard risk reduction through existing and new climate and hydrological stations (and modeling where appropriate) at years 5 and 10 for these populations (see indicator Table in E1). A smaller portion of these are beneficiaries adopting improved and/or new climate-resilient livelihoods for activities focused on on-farm adaptation interventions, as outlined in the indicator table in Section E. For Core Indicator 4, total spatial area of hectares of natural resource areas brought under low-emissions and/or climate resilient management practices througha combination of conservation in existing Pas and buffer zones, restoration, and rehabilitation is 6,607,079 ha.

358. Indirect beneficiaries are defined as the total downstream populations within larger watersheds, (but outside of implementation areas) associated with improved management and restoration and rehabilitation interventions across the 6.6 million hectares (across outcomes 1-3) targeted by the project in upstream implementation areas, equal to 16,614,522 people, benefitting from the same suite of water provision and regulation services described above. This includes the roughly 10 million people in the city of Bogota and neighboring towns, for example, which receives 70% of its water supply from Chingaza National Park.[132]

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

359. As noted in section B.2, a core feature of this project – the PFP approach – is completely new for Colombia and has only been used in a few countries in the region. The HECO PFP approach builds on a similar GCF project in Bhutan, as well as experiences and lessons learned from three successful major conservation initiatives using a PFP approach: Amazon Region Protected Areas (ARPA) in Brazil, Forever Costa Rica, and the Great Bear Rainforest in Canada. Although these projects are still ongoing and thus too early for a rigorous evaluation of their results, each has mobilized unprecedented resources and commitments and launched large-scale protection of key ecosystems. Together the existing PFPs have raised over US$ 400 million in donor funds and more than US$ 600 million in in-country financial commitments to preserve more than 70 million hectares of conservation areas, most of which are critical carbon stocks.

360. Moreover, the PFP approach has been widely recognized as a valuable framework for catalyzing public and private finance in large landscapes, overcoming policy and regulatory barriers, and as a way to make more effective use of scarce resources to reach desired outcomes.[133] A full overview of the PFP approach, including early work in Colombia, can be accessed here.

361. The PFP approach is strongly aligned with GCF's goal of funding initiatives that catalyze climate impact beyond a one-off investment; the HECO PFP vision is about using upfront funds during a transition period to create the conditions to secure a long-term flow of ecosystem and climate services in perpetuity with a clear exit strategy.

362. With the initial investment of the GCF funds and co-finance, this project seeks to increase the baseline of financing for climate-resilient management practices in and adjacent to Protected Areas (Figure 24). Over the life of the project, the initial investment is reduced to long-term operating costs (US$ 7.2 million annually) and replaced at project completion by nominal US$ 4.7 million from Colombia's carbon tax and nominal US$ 2.9 million from SGR (see section B.6 for further details).

[132] Plan Maestro de Acueducto y Alcantarillado Bogota. Documento Técnico Soporte. 2006.
[133] https://ssir.org/articles/entry/a_big_deal_for_conservation

363. In this case GCF funds will attract an additional US$ 102.2 million in new investment as direct co-finance into these landscapes from WWF, the Government of Colombia and various philanthropic donors over the ten years of the PFP implementation period. The Government of Colombia contribution is in addition to US$ 8.2 million in annual recurring budget allocations to the PA system (the baseline which is not counted as co-finance to the GCF project). Together with GCF's contribution, the PFP aims to catalyze an additional US$ 7.2 million[134] (nominal) annually starting in year 11 from new public domestic resources by the project's end in order to maintain financial sustainability, thereby almost doubling the year-on-year financing flowing into these key landscapes compared to a BAU scenario. Over a 20-year timeframe post completion, the project would therefore leverage an approximate nominal amount of over US$ 206 million (adjusted for inflation).

364. It must be emphasized that as part of the PFP the Government of Colombia has ex-ante committed to fund 100% of the additional funding gap to maintain the climate and ecosystem benefits of these landscapes at project end; this funding stream is estimated to come from the recently introduced carbon tax, new access to royalties and additional financial instruments developed during the life of the project. These are not long standing instruments: the carbon tax was only introduced in 2016 and access to funding from royalties for PA use was only enabled through legislation passed in the last few years. Additional funding could come from proceeds linked to Colombia's recent green bond issuance. Therefore, as regards the financial sustainability approach adopted by the government, this is not an upscaling of normal budgetary resources but rather a combining and sequencing of baseline funding with several new instruments under the PFP framework.

365. The project presents a profound opportunity to use the PFP model to shift the status-quo trajectory in these mosaics toward integrated low carbon and resilient landscape management that ensures these landscapes deliver critical services for the decades to come. Already this GCF project as the cornerstone investment, will leverage an additional US$ 56 million towards protected area finance of the broader HECO PFP. Further contributing to this potential paradigm shift through further scaling and replication and even more significant, as the HECO PFP contributes to part of the larger HECO program aiming to fund and improve management for the entire protected area system for the next 30 years.

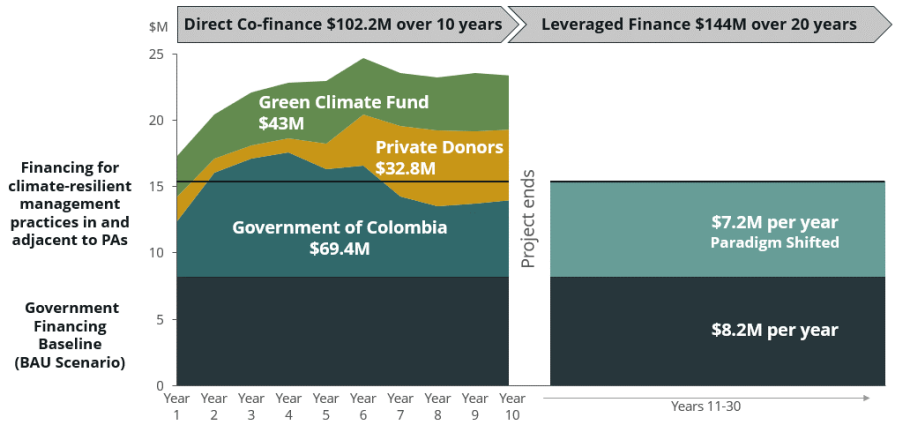

Figure 24. The design of HECO uses a blended finance approach for achieving climate and conservation outcomes. For simplification, the graph is in real US$ (2022).

366. If this PFP is successful, it is hoped it can be replicated to support other landscapes within Colombia. As such, the project has significant scalability potential, as successful interventions in all three outcomes, from improved governance to information access and use and landscape interventions, can be immediately scaled, through the critical monitoring, learning, and evaluation components of the project, to the entirety of Colombia's protected areas system that provides enormous national, regional, and local benefits. All three outcome areas present substantial potential for long-term, enduring benefits beyond the life of the project: improvements in governance models, establishment of new climate information systems and improved use of the resulting information, and direct interventions to increase capacity for sustainable, resilient land management to reduce

[134] the average long-term gap in real $US (base year) is 5.4 million from year 11 onwards

pressures on ecosystems and restore their functions essential to resilience should continue to provide benefits for decades if successful.

367. Generating information, sharing knowledge, and increasing capacities at different levels to use and apply climate-relevant information are key features of the holistic approach proposed. The proposed project's EbA interventions will be managed adaptively, through a robust monitoring, evaluation and learning (MEL) plan that supports periodic assessments of the interventions' effectiveness to address climate adaptation challenges. In addition, it will support a continuous process of iterative learning to manage change and avoid maladaptation, and to support the replication and scaling of the EbA interventions.

368. The project will invest in strengthening participatory monitoring systems established by national and regional environmental authorities to generate climate-relevant data needed for improved decision-making, support the participatory engagement of key stakeholders within landscape planning processes of environmental authorities for the exchange and application of climate-relevant information, and collect climate-relevant parameters from the interaction between remote sensing data and field work and the integration into monitoring and evaluation systems from local to national scales. Landscape and local level data will be incorporated into national systems for climate monitoring and evaluation and made accessible to climate vulnerable. The project's potential for knowledge creation and learning is integrated in the design of several activities and sub activities, as summarized in Table 20 below.

369. The project includes a targeted activity to generate inter-institutional knowledge management processes built on landscape-specific documentation and knowledge gathering, as well as related activity on enabling shared learning processes across the different landscape and institutional levels. A key element of this activity is applying audience-specific storytelling approaches to train specifically women,youth, indigenous peoples and Afro-Colombians in how to access, use and contribute to climate change information and how to apply it to reduce local vulnerability and enhance co-benefits received from surrounding ecosystems. These strategies of shared generation and training around the use of climate information – in particular the use of early warning systems - will enable communities and institutions involved in the landscape management to continue applying climate data and adaptation knowledge after the project is complete. Through the strengthening of capacities of leaders of the areas, of educational centers in environmental education, and of communication strategies for the general population, there will be a greater knowledge, appreciation, and awareness of the identified climate problem, which will improve management decisions in the landscape. In addition, the project will consolidate partnerships among government and research institutes, including IDEAM, Sinchi Institute, the Humboldt Institute and Invemar, who are the main responsible entities to generate and make scientific data and early warning systems available to different types of users in the landscapes and who will continue to provide updated climate information through the channels that will be set up or consolidated during project implementation. The training materials and knowledge management systems developed during project implementation will enable these scientific institutions to continue providing training programmes on climate change adaptation to different types of users after project implementation.

Table 20. Project process for knowledge creation and learning to support scaling and replication.

Activity	**Process for knowledge creation and learning, and use for scaling and replication**
1.2.2 Strengthen the capacity of local communities and their understanding of climate change, incorporating indigenous knowledge and gender responsiveness	• Promote education and training processes in community organizations and institutions in each landscape to improve their knowledge and capacities for water resource management. • Provide tools for resilient landscape management and the mitigation of pressures due to changes in land use. • Design and implement stakeholder-responsive communications strategies in the four landscapes.

2.2.1 Incorporate landscape- and local-level data into national systems for climate monitoring and evaluation (e.g., SMByC, SIM-SINAP, SIIVRA)	• Establish formal communication channels to exchange information between monitoring systems managed by different institutions (IDEAM, PNN, UNGPD, CAR). • Strengthen the national forest and carbon monitoring system (SMByC) in the development of deforestation alerts at the local and regional level, thereby improving degradation monitoring and participatory restoration.
2.2.2 Introduce improved systems for dissemination of usable climate information to climate vulnerable populations for improved decision-making (e.g., on precipitation or temperature patterns	• Improve existing platforms (SIM-SINAP, SMByC, and SIIVRA) for the improved accessibility and dissemination of information (impacts of climate change) for monitoring protected areas to enable behavior change and inform land use planning. • Support the design and development of training and educational materials covering climate issues, create and exchange stories that show the urgency of climate change adaptation action, and disseminate best practices. • Lessons from use of climate information will be collected and a knowledge management system developed to share them together with an analysis of the strengths and weaknesses of the use of the information. • Exchange programs will be organized and carried out among community groups and institutions to enhance a mutual learning process and create networks of climate-informed leaders.

370. The project will also generate significant opportunities to both demonstrate approaches that have already proven successful and test new innovations (i.e., ecosystem-based adaptation via reforestation and restoration, or climate-smart conservation in protected areas) in Colombia to combat deforestation, build climate resilience, improve dissemination of relevant climate information, and improve governance. The project's MEL system is therefore an essential component to develop and disseminate key lessons learned and successful interventions that should be scaled and replicated nationwide (and globally).

371. **Data collection and storage within the MEL system**. 13 new weather stations will be installed to fill the gaps in IDEAM's network. The information and data captured by this infrastructure will be stored in the national climate monitoring system management, which is maintained by IDEAM. In addition, in six hydrographic river basins, six new water gauge stations will be installed in as part of ongoing early warning monitoring initiatives. In these basins, hydrological stations and a local monitoring structure for early warnings will be established to reduce the impact of hydro-climatic phenomena due to climatic variability. Local monitoring groups will be identified in each basin and provided with data collection equipment. The data and information collected will be stored in the current infrastructure based in the regional environmental authorities. Biannual reports will be generated through the analysis of data and information collected, and also include lessons and good practices from early warning interventions. The data and information collected will also be made available for IPLC programs and plans to inform their territorial governance and management. Such empowerment for use and interpretation of data and information is also aimed at generating enabling conditions for exchanges and interaction with government officials and other relevant stakeholders. This goes beyond simply accessing information, but allows it to be used and applied in a participatory manner. The use of already available monitoring and data storage systems is part of a move away from creating parallel monitoring systems, rather contributing to the creation of robust national participatory systems and processes frameworks in Colombia. This project seeks to capitalize and complement such processes.

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

372. There are two principal types of co-benefits to the country that will be provided to the country in addition to contributing to the national strategy for accelerating climate change mitigation and reducing exposure to adverse climate change impacts by enhancing adaptation measures, especially for vulnerable populations. Given that this project focuses on improving the management of ecosystems under the country's protected areas system, it will clearly also generate significant local and global benefits from biodiversity conservation. This should significantly support the country's sustainable development, as the annual value of ecosystem services provided by its biological diversity has already been estimated to be approximately 1% of Colombia's GDP. The second

set of co-benefits are socio-economic in nature – beyond those specifically associated with improve climate resiliency, including water provisioning and regulation. In addition, there are regional benefits that accrue to and support Colombia's sustainable development.

Biodiversity co-benefits

373. The creation/expansion of protected areas under Activity 3.1 and the restoration of degraded forests under Activity 3.2 will strengthen biodiversity across a total of 670,613 ha, by providing additional suitable habitat and increasing landscape connectivity (through the creation of corridors) for vulnerable species such as Puma, Jaguar, Andean Bear and Mountain Tapir amongst other species. Under The Economics of Ecosystems and Biodiversity (TEEB) classification of ecosystem services, there are several ecosystem services and sub-services, that will result from enhancements of biodiversity across the project area. These are outlined in Table 21.

Table 21. Biodiversity-related ecosystem services under The TEEB Classification[135].

TEEB Classification	Ecosystem Service	Ecosystem Sub-Service
Provisioning	Genetic resources	Plant genetic resources
		Animal genetic resources
		Genetic resources [unspecified]
	Medicinal resources	Biochemicals
		Models
		Test-organisms
		Bioprospecting
	Ornamental resources	Decorative Plants
		Fashion
		Decorations / Handicrafts
		Pets and captive animals
Regulating	Biological control	Seed dispersal
		Pest control
		Disease control
		Biological Control [unspecified]
Habitat	Maintenance of life cycles	Nursery service
		Refugia for migratory and resident species
	Maintenance of genetic diversity	Biodiversity protection
Cultural	Inspiration for culture, art and design	Artistic inspiration
		Cultural use
		Inspiration [unspecified]
	Spiritual experience	Spiritual / Religious use
	Information for cognitive development	Science / Research
		Education
		Cognitive [unspecified]
	Existence, bequest values	Existence value
		Bequest value

374. Protected areas guard critical habitat for species so that they can thrive, unimpacted by human disturbance. Recent studies have shown that on average the number of species in a protected area is 10.6% higher than outside, and the populations of those species are 14.5% greater when they live on protected land[136]. Forest restoration in biodiversity-unfriendly degraded landscapes can and does enhance biodiversity persistence and the delivery of ecosystem services. Ecological restoration can reconnect isolated populations of plants and animals by providing corridors of forest cover. Arrested succession of forests is common, caused by severe edge effects, altered microclimatic conditions, and chronic small-scale disturbances such as intense fragmentation, recurrent fires, logging, and biological invasions. Thus, ecological restoration can also improve the quality of the

[135] De Groot, R. Brander, L. Solomonides, S. 2020. Ecosystem Services Valuation Database (ESVD) Version December 2020.
[136] Source: https://www.rainforesttrust.org/our-impact/rainforest-news/5-benefits-of-protected-areas/

ecosystem by focusing on establishing natural successional trajectories in disturbed fragments, thereby providing a platform for biodiversity to improve. As a result of the spatial requirements of biodiversity, such potential can only be realized when ecological restoration is carried out on extremely large scales, as targeted by the proposed project[137].

375. The Amazon's forest and rivers host an extraordinary variety of species, some endemic, others endangered, and many of which are still unknown. This biodiversity is important globally. Every species in this incredibly biodiverse system represents solutions to a set of biological challenges -- any one of which has transformative potential and could generate global human benefits. For example, the discovery of ACE (Angiotensin Converting Enzyme) inhibitors, inspired by studies of Fer de Lance venom (a tropical viper found in the Amazon), help hundreds of millions of people control hypertension around the world. Biodiversity is also important locally, constituting a natural capital underpinning many human activities, in particular livelihoods of the world's poor. For example, the giant catfish is an important local staple. Amazon biodiversity also plays a critical role as part of global systems, influencing the global carbon cycle and thus climate change, as well as hemispheric hydrological systems, serving as an important anchor for South American climate and rainfall[138].

376. Colombia has a wide variety of highly biodiverse ecosystems due to its range of local climates and hydrological settings – from humid tropical rainforest to arid deserts – as well as mountain forests and moorlands, coastal and marine ecosystems, and a wide variety of geological formations. These varied landscapes can be grouped in five natural regions: the Andes Mountains, Amazon forest, Pacific, Caribbean, and Orinoco. As noted above, there are substantial co-benefits anticipated from the project for biodiversity, including conservation of globally important wildlife species which directly rely on these ecosystems for their habitat and movement across landscapes. An details of the biodiversity that will benefit across each project mosaic is presented in Annex 2.

Water provision and regulating services

377. Protected Areas preserve many ecosystem services, with substantial value to society. Of these services, water provisioning and regulating has been identified as particularly relevant to highlight. Under The Economics of Ecosystems and Biodiversity (TEEB) classification of ecosystem services, there are several water-related ecosystem services and sub-services. These are outlined in Table 22. Provisioning services relate to the direct availability of a quantity of water in any given catchment for various domestic and industrial uses. Regulating services relate to the maintenance of a certain quality of water in states that facilitate uses such as power generation and river navigation. While provisioning values are generally reflected in their value as a final product (eg. Drinking water) or as an input to production process (e.g., in agriculture or industry), regulating values are more often reflected as an averted cost (e.g., the averted cost of water treatment prior to its use in a hydro-electric plant). For the purposes of defining this co-benefit, these ecosystem services and sub-services are referred to collectively as water provisioning and regulating services.

Table 22. Water-related ecosystem services under The TEEB Classification[139].

TEEB Classification	Ecosystem Service	Ecosystem Sub-Service
Provisioning	Water	Drinking water
		Industrial water
		Water Other
		Irrigation water [unnatural]
		Water [unspecified]
Regulating	Regulation of water flows	Drainage
		River discharge
		Natural irrigation
		Water regulation [unspecified]

[137] Brancalion, P. H. S., Melo, F. P. L., Tabarelli, M. and Rodrigues, R. R. 2013. Biodiversity persistence in highly human-modified tropical landscapes depends on ecological restoration. Tropical Conservation Science Vol.6 (6):705-710.
[138] Source: https://www.worldbank.org/en/news/feature/2019/05/22/why-the-amazons-biodiversity-is-critical-for-the-globe
[139] De Groot, R. Brander, L. Solomonides, S. 2020. Ecosystem Services Valuation Database (ESVD) Version December 2020.

378. Water provisioning and regulation is preserved both in the protection of pristine ecosystems as well as in the sustainable management of modified ecosystems such as agricultural systems. Avoided deforestation, restoration and rehabilitation are all forms of sustainable catchment management that result in the preservation of water provisioning and regulating services. This is explicitly recognized in Colombia's National Policy for the Integral Management of Biodiversity and its Ecosystem Services (NPIMBES)[140].

379. Research conducted by Parques Nacionales Naturales de Colombia highlights the volume of water additionality that can be attributed to Colombia's Protected Area system[141]. Fifty percent of the hydro-energy produced in Colombia uses water provided by the national system of protected areas, with an estimated value of US$ 502 million per year. At least 19 protected areas of the system provide drinking water for more than 25 million people, for an estimated annual value of US$ 491 million. Among the beneficiary cities are capitals such as Bogotá, Cali, Manizales, Pereira, Armenia, Ibagué, Neiva, Santa Marta, and Valledupar. For example, sustainable catchment management in Chingaza National Natural Park ensures the continued provision and regulation of water services that support 70% of the water needs of Bogotá's 10 million inhabitants.

380. An analysis of water provisioning during average and dry years for the five hydrographic zones of Colombia (Caribbean, Magdalena-Cauca, Orinoco, Amazonas, and Pacific), demonstrates that the sub-zones where National Parks are located have between 25 and 30% additional water available as compared to those sub-zones without national parks (PNN, 2014). It has been estimated that water provisioning and regulation services provided by the national Parks add, at least, US$ 2.3B to the GDP for an average year[142] (Table 23). Further detail is provided in Annex 2.

Table 23. Value of water provisioning and regulation services provided by Colombian National Parks.

Sector	**Contribution to national GDP (US$ million)**	**Contribution from National Parks (US$ million)**	
		Average year	**Dry year**
Agriculture	13 394	737	884
Domestic	1 637	409	491
Energy	8 372	419	502
Services	174 881	66	79

381. Adding the total values across sectors and dividing by the total area covered by Colombia's national parks allows for an aggregated, national-level estimation that the value of water provisioning and regulating services is US$128/ha in an average year and US$153/ha in a dry year. The value in an average year was used to estimate the project's impact in terms of avoided ecosystem services losses through deforestation, which has been used to estimate the value of this co-benefit in the economic analysis, provided in Annex 3.

Additional co-benefits

382. Another significant contribution of the project to the country's sustainable development will come from socio-economic benefits generated beyond building climate resiliency for vulnerable communities and strengthening sustainable financing mechanisms for SINAP management. This is particularly important in the context of social inequities and ongoing civil stabilization following the recent period of domestic instability. More than one-half of the population (52.6%) currently live below the poverty line, and 69% are classified as such in rural areas. The recent end of civil strife has brought fresh prospects for accelerating equitable and inclusive economic development, though there remain high numbers of internally displaced people. Recovery of

[140] MAVDT, 2012. Política Nacional para la Gestión Integral de la Biodiversidad y sus Servicios Ecosistémicos (PNGIBSE). República de Colombia, Bogotá DC

[141] Parques Nacionales Naturales de Colombia 2013. Importancia económica de la provisión y regulación hídrica de los Parques Nacionales Naturales de Colombia para los sectores productivos del país.

[142] UAESPNN. 2017. Aporte de los Parques Nacionales Naturales al desarrollo socioeconómico de Colombia. Bogotá, Parques Nacionales Naturales.

communities from the dislocations recently suffered and to form the basis for a green recovery from the economic impacts of the Covid-19 pandemic and future sustainable development means that stricter controls on the management of natural areas will be needed, even as some traditionally restricted areas are opened to agriculture, tourism, and other economic uses.

383. Colombia's 2018-2022 "Pact for Colombia, Pact for Equity" National Development Plan (NDP) is oriented to building a socially inclusive, equitable, and sustainable economy based on promoting formal community business entrepreneurships and ventures with a clear emphasis on "producing while conserving and conserving while producing", contributing to the achievement of multiple Sustainable Development Goals (SDGs). These include: #1 (resilient communities), #6 (water), #7 (renewable energy - hydropower), #13 (climate action); #14 & #15 (life on water and land), and #17 (public-private partnerships). The proposed project and its approach are thus fully supportive of both the country's climate and its sustainable development policies.

384. As part of the architecture for national development planning, the Comprehensive Strategy for Control of Deforestation and Forest Management seeks to strengthen governance among ethnic groups and local communities, curb deforestation, improve use of timber and non-timber products, establish permanent control and monitoring actions for the nation's forests, and generate financial, regulatory and enforcement incentives for forest conservation; while the National Strategy for Ecological Restoration of Protected Areas seeks to strengthen in-situ conservation of ecosystems and natural habitats for their biological, social and economic benefits.

385. Finally, there are a range of important contributions the project will make at the regional level which will benefit the national sustainable development agenda. Colombia is a leader among Latin American and Caribbean states, actively working with its neighbors through regional economic and environmental coordination mechanisms and bodies. This includes the Leticia Pact for action to encourage sustainable development in Amazon states. Improvements to protected areas management capacity and practices in this project's targeted mosaics will attract related private investments, which can be financed through the Amazon Bioeconomy Fund organized by the Inter-American Development Bank (IDB) and approved for GCF investment. WWF and IDB – in consultation with Colombia's NDA – are holding ongoing discussions about how best these two initiatives can actively complement each another. For example, there is strong interest in further eco-tourism investment in the targeted geographies (once Covid-19 restrictions have been lifted). There also should be numerous opportunities for complementary investments in sustainable agriculture ventures in the buffer zones and corridors that – together with targeted protected areas – comprise the project's targeted mosaics. WWF and IDB have just begun joint development of an innovative platform for promotion of sustainable investment in the Amazon in response to a call from the governments of the region under the Leticia Pact. Colombia has agreed to host development of this platform on a pilot basis, and this is being implemented in the same landscapes that are the target of the project. All of these actions should help to crowd-in private investment that will contribute to the project's near-term objectives and mobilize financing to sustain the gains made through GCF's investments.

386. Addressing drivers of deforestation and land degradation in the ecosystems of the Andes and Amazon is especially critical given their regional and global importance. The Andes provide important global benefits, both from high and unique biodiversity essential to the structure and function of ecosystems that support innumerable essential services like provision of clean water provision and water regulation.[143] These geographies targeted by the project also serve as headwaters to the major rivers of the Amazon basin that sustain invaluable ecosystem services across the entire biome. The carbon rich forests of the Amazon are essential in regulating the regional and global climate, with teleconnections that govern weather patterns in other regions of the world, where forest loss can cause significant climate impacts in other regions.[144]

387. The project will help Colombia meet its commitments to conserve the ecosystems services provided by the Amazon biome. Research has long shown that deforestation in the Amazon, coupled with global climate change impacts that lead to less rain and higher temperatures, could lead to a successional tipping point from a

[143] Clerici, N., Cote-Navarro, F., Escobedo, F.J., Rubiano, K., Villegas, J.C., 2019. Spatio-temporal and cumulative effects of land use-land cover and climate change on two ecosystem services in the Colombian Andes. Sci. Total Environ. 685, 1181–1192. https://doi.org/10.1016/j.scitotenv.2019.06.275

[144] Garcia, E. S. et al. Synergistic Ecoclimate Teleconnections from Forest Loss in Different Regions Structure Global Ecological Responses. PLOS ONE 11, e0165042 (2016).

biome comprised largely of rainforest to one of savannah over a large portion of the region. Recent research has also indicated that the Amazon rainforest is now emitting more CO_2 than it absorbs – shifting from its role as an important global carbon sink that absorbs carbon emissions from the region's countries and elsewhere across the planet. Project efforts are vital to protecting and better managing these forests so that they are more resilient to the impacts of climate change and to reducing drivers of their loss from fire or conversion to other land uses – benefiting Colombia, the region and global efforts to address climate change mitigation.

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

388. Colombia is a middle-income developing country with positive economic indicators and trends. However, it is also among a list of most vulnerable countries to extreme weather impacts due to the high recurrence and magnitude of disasters associated with changing climate conditions. Due to a combination of political, geographic and social factors, Colombia is recognized as vulnerable to the impacts of climate change, ranking 91st out of 181 countries in the overall 2019 ND-GAIN Index, 84th for vulnerability, 156th for exposure, 94th for adaptive capacity, 106th for vulnerability of its freshwater supplies and 90th for vulnerability of its natural capital/ecosystem services to climate change[145]. Climate Change has exacerbated Colombia's vulnerability, the impact of La Niña and El Niño, for example, are becoming more frequent and more intense during the last decades. These impacts are likely to be magnified as projected changes in precipitation and temperature unfold, particularly in rural areas.

389. Although, Colombia has made progress in recent years in the management of climate change regarding adaptation and mitigation through the articulation of strategies at the sectoral and territorial levels, it is still necessary to advance in the mobilization of resources in a sustainable and scalable way to achieve the objectives of climate change policies in the country, especially considering the updated NDC. However, barriers to accessing climate-finance within Colombia exist at several levels: national, regional, and local. At the national level, these barriers include: i) the non-existence of a system of economic and financial instruments for climate change, ii) the lack of integration of climate change in public and private investment projects; and iii) the deficiency of knowledge management and information on climate finance (ENFCC, 2018). At the regional level, the absence of a National Strategy for Environmental Areas further hinders access to climate finance. The aforementioned barriers are compounded by gaps in institutional capacity to use climate finance effectively, including collaborating with multiple stakeholders. And lastly, at the local level, rural communities are largely dependent on subsistence farming.

390. According to the National Climate Financing Strategy (ENFCC), Colombia's financial needs are identified according to mitigation, adaptation, and means of implementation goals. Specifically, mitigation is framed in the mobilization of the resources required to fulfill Colombia's commitment to the UNFCCC. Colombia's NDC (2020) recognizes the necessity to "identify financing needs to meet the goals and measures of the NDC, and integrate sources of financing, financial schemes, project structuring; the costing and the sustainability of the implementation". Accordingly, the Government is in the process of developing this financing plan and the contribution of international public financing sources, such as the GCF, that will be required for implementing the NDC. The financial gap associated with climate change in the country is at least US$ 926 million per year (TCNCC, 2017). As a result, finance from climate change funds such as the GCF is required to fill this gap. Moreover, a key gap is related to the lack of finance for Nature-based solutions (NbS) to climate change. In Colombia, natural protected areas are underfunded, requiring steady support from public budgets and private environmental organizations, for their conservation and long-term financing.

391. While government co-finance will be leveraged through the project, high debt levels, decreases in GDP since 2020 due to COVID-19, and financial commitments to supporting families in need have made allocating finance for climate-related issues challenging — consequently, the AE will provide additional co-finance (co-financing commitment letters are presented in Annex 13, with details on amounts per partner available in Section C). According to the National Administrative Department of Statistics, as a direct result of the COVID-19 pandemic and associated economic disruptions, Colombia's GDP fell by 6.8%, which is the deepest annual reduction of GDP ever recorded. It should be noted that prior to the pandemic, the country had been transforming itself

[145] https://gain.nd.edu/our-work/country-index/rankings/

economically and socially in a post-conflict context, which has taken a back seat, in part due to the priorities imposed by the COVID-19 crisis. While the Congress of the Republic approved US$ 84.5 billion in 2021 as the General Budget of the Nation to move forward an economic recovery strategy from the COVID-19 pandemic, it is estimated that national debt as a proportion of GDP will reach 64.8% in 2021, and in February 2021, Colombian public and private external debt had already reached US$ 156.8 billion, an increase of 11% over the previous 12 months. Hence, to generate sufficient revenues to cover the costs of protecting the most vulnerable and stimulating the recovery of employment, the Ministry of Finance presented a tax reform bill to raise an additional $3.95 billion. At the beginning of the pandemic, the National Government decided to make direct economic transfers to needy families, spending the equivalent of 5.7% of the nation's GDP on support, loans and guarantees. This added to the reduction of exports, especially traditional ones (-36.1%), due to a drop in foreign sales of oil and its derivatives (-46.2%) and further increased the country's debt.

392. Additional debt is not an option for Colombia to invest in natural protected areas. As public goods that provide key environmental services on which the livelihoods of many of Colombia's rural poor depend, rather than directly generating revenues, natural protected areas are managed on a not-for-profit basis. Thus, making a grant the most viable option for this project, especially considering a post-COVID green recovery. Furthermore, while Colombia is considered a middle-income country (with a GDP per capita of US$5,889.22 in December 2020)[146], it has a highly inequitable distribution of wealth with a Gini coefficient[147] of 51.3 for 2019[148], ranking behind only Brazil in South America. Poverty and low levels of socio-economic development are concentrated in the country's rural areas.

393. 52.6% of the population currently live below the poverty line, with 69% classified as such in rural areas. Around 78% of the total populations in the project areas live below the poverty line. The recent end of civil strife has brought fresh prospects for accelerating equitable and inclusive economic development, though there remain high numbers of internally displaced people. Recovery of communities from the dislocations recently suffered and to form the basis for a green recovery from the economic impacts of the COVID-19 pandemic and future equitable wealth distribution requires stricter controls on the management of natural areas, even as some traditionally restricted areas are opened to agriculture, tourism, and other economic uses. The socio-economic benefits generated beyond building climate resiliency for vulnerable communities and strengthening sustainable financing mechanisms for SINAP management will support equitable wealth distribution in Colombia. Through Activity 3.2.3[149], the project will both support COVID-19 recovery efforts in Colombia, and the transition to a green, fair and resilient economy that addresses inequality through investing in communities (indigenous and marginalized) located in the country's rural areas. In doing so, the project will contribute directly to goal 4 of the new national policy focused on the consolidation of the SINAP 2020-2030: equitable sharing of conservation benefits. In addition, the project supports the implementation of Colombia's 2018-2022 "Pact for Colombia, Pact for Equity" NDP, which is oriented to building a socially inclusive, equitable, and sustainable economy based on promoting formal community business entrepreneurships and ventures with a clear emphasis on "producing while conserving and conserving while producing".

394. The proposed project's contribution to supporting equitable wealth distribution includes targeting rural agriculturalists as direct and indirect beneficiaries — including indigenous and Afro-Colombian communities (2% of the project's beneficiaries). Rural agricultural livelihoods are reliant on ecosystem services, such as water provision, resulting in large portions of society being indirectly affected by the impacts of climate change on ecosystems, in addition to direct climate impacts. Agricultural and subsistence-based livelihoods in poor and marginalized communities with often limited access to modern farming technology and basic infrastructure and services are highly dependent on ecosystem services. For example, analysis of the dairy and cattle ranching sectors projects production declines of roughly 8% and 2% production nationally, with losses as high as nearly 15% in some departments, as a result of reduced biomass in high altitude pastures from rising temperatures and

[146] https://tradingeconomics.com/colombia/gdp-per-capita-ppp
[147] Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.
[148] https://data.worldbank.org/indicator/SI.POV.GINI?locations=CO
[149] Map financial flows and screen investments supporting climate and nature positive outcomes in key sectors and mosaics for inclusion on the Amazon Sustainable Investment Platform and investment from the Amazon Bioeconomy Fund, and the Ministry of Environment.

reduced rainfall.[150] Corn, rice, and potato production were all projected to decline by 7.4% average across three climate scenarios. Climate susceptibility and land suitability of crops directly affect food productivity and consequently decrease food security.[151] Based on modelled expected changes in crop suitability areas due to climate change, municipalities across four intervention mosaics (data not available for San Lucas) are expected to suffer from medium-to-low changes in areas optimal for the production of different agricultural crops (see full mosaic descriptions in Annex 2). In addition, all mosaics will face changes in water supply/demand for animal husbandry and agriculture, with low projected changes for the Heart of Amazon and the Central Andes, low-to-medium changes in the Orinoco, and high changes in the Caribbean. The vulnerability of the agriculture sector can be expressed with regards to income level. The agriculture sectors in the Caribbean and Heart of the Amazon mosaics are most vulnerable because they have the lowest incomes, with 6.3% and 6.7% of GDP participation, respectively. The San Lucas, Orinoco and Central Andes have progressively higher incomes, with 15.3%, 18% and 20.9% of GDP participation, respectively.

395. An increasing proportion of Colombia's water supply is highly vulnerable to water deficits, scarcity, and reduced quality. The National Water Study estimates that almost 50% of the urban population is vulnerable to water scarcity on an average year, and that this proportion may increase to reach up to 80% during dry years.[152] While Colombia is one of the water richest countries in the world, there is a significant mismatch between where water is available and where populations are concentrated, resulting in one third of the total urban population already living under water stress.[153] In the Orinoco Transition landscape, where Bogota and surrounding locations (more than 10 million people) take water from the Chingaza Paramos System, water supply is already reduced by 62% in dry periods, constraining availability of the high quality, cleaner flows from the Paramos. Climate change will likely exacerbate these trends, further impacting land use, economic transactions, and human wellbeing, as declining agricultural productivity from drought, flooding, fire and other hazards increases expansion into protected areas, shifts livelihoods to new sources, and directly reduces income.

396. While the project's targeted beneficiaries include the most vulnerable communities in buffer zones that are directly reliant on rainfall as a water supply, its interventions will also indirectly benefit densely populated urban areas that rely on montane ecosystems (such as the paramos) that provide their water (16.9 million indirect beneficiaries). Additionally, the project will work directly with civil society, ethnic groups (indigenous and afro-Colombian communities) and women to improve their engagement in local and regional governance, their participatory land and water management, as well as improve their adaptive capacity with direct interventions.

397. In terms of gender, 35.9% of rural women and 7.8% of rural men over 15 years old in rural areas do not have their own income. Additionally, about 19.8% of female-headed rural households suffer from extreme monetary poverty limiting their adaptive capacity. Many other axes of inequality, including lower access to land ownership, to credit and financial inclusion, to community decision-making processes and governance structures, further exacerbate women's vulnerability in the face of climate-related events such as droughts or floods, leading to their inability to absorb climate-related shocks and to recover quickly from such events. Many rural women prioritize collecting water and firewood for household purposes, along with the production of food for household consumption; all of these activities are highly impacted by climate-related events, putting women in a more vulnerable position.[154] In its review of the ninth periodic report[155], the CEDAW Committee highlights the persistence of entrenched gender stereotypes and roles in the public and private spheres. It urges the state to develop comprehensive strategies to combat this, both in society and in private spaces, such as within the family. Although women and men are formally equal in law, there are various specific influences that impede access to full human rights, including equality, such as: gender-based violence against women; trafficking and sexual exploitation; the gap in political and public participation; the access to rights such as health, education, citizenship,

[150] BID y Departamento Nacional de Planeación, 2015. Impactos Económicos del Cambio Climático en Colombia: Sector Ganadero. https://publications.iadb.org/es/impactos-economicos-del-cambio-climatico-en-colombia-sector-ganadero
[151] Esperón-Rodríguez, M., Bonifacio-Bautista, M. & Barradas, V.L. Socio-economic vulnerability to climate change in the central mountainous region of eastern Mexico. Ambio 45, 146–160 (2016). https://doi.org/10.1007/s13280-015-0690-4
[152] IDEAM (2019). Estudio Nacional del Agua 2018. Bogotá: Ideam: 452 pp.
[153] OECD. 2014. Environmental Performance Reviews: Colombia. https://www.oecd.org/colombia/Colombia%20Highlights%20english%20web.pdf
[154] In https://www.ati.org.co/index.php/informe-cedaw-2019, retrieved 11/20/2020.
[155] Committee for the Elimination of Discrimination against Women. List of issues and questions on the ninth periodic report from Colombia. CEDAW/C/COL/Q/9/add.1 https://undocs.org/sp/CEDAW/C/COL/Q/9/Add.1

employment, etc. Consequently, the inclusion of women in participatory governance, monitoring and production is a key need that has been addressed in the design of this proposal.

398. This current economic context of the country and nature of the project's investment make clear the necessity of the project being grant financed. Incurring additional debt – especially for a project that is justified in part by its large global benefits – is not an option for the country. Furthermore, natural protected areas and their associated landscapes provide key environmental services and commodities to all members of society, including the rural poor, and are justifiably considered public goods to be supported through domestic taxation and international grant transfers.

399. The government has recognized the need to increase funding for natural areas improved management given the range of benefits – including climate mitigation and adaptation – they provide to society. While it is taking preliminary steps in this direction, the Project is seen as a principal vehicle for further developing the fiscal means to pay for nature-based climate solutions. Specific activities will address these public funding barriers as well as identifying opportunities to crowd-in private financing for complementary investments.

400. The national debate over use of tax revenues for these purposes has made clear the need to take a whole-of-society approach to establishing the value of effectively managing natural protected areas. The Project will work directly with civil society, ethnic groups (indigenous and Afro-Colombian communities) and women to improve their engagement in local and regional governance, their participatory land and water management, as well as to improve their adaptive capacity with direct interventions.

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

401. The project responds to the need to adopt effective policy measures to combat climate change and reverse the loss of biodiversity in the country as a consistent mechanism with the international agreements committed to by the country under the United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD).

402. The proposed interventions are closely aligned with the government's priorities for enhancing resilience of communities and ecosystems, improved land management and promoting sustainable management of forests and conservation of strategic ecosystems to reduce GHG emissions derived from land use, deforestation and forest degradation. First and foremost is the Government of Colombia's 20-year vision to conserve and sustainably finance 20 million hectares, "Herencia Colombia (HECO)", which was announced at COP21. This vision has three strategic elements: (1) increase the conservation of natural capital through the expansion of the SINAP; (2) Improve the effective management of SINAP areas; and (3) Improve governance and connectivity in 9 conservation landscapes. National policy and plan alignments are described below.

403. Additionally, this project aims to support the Government of Colombia in the quest for strengthening ongoing peacebuilding and conservation efforts related to the Peace Agreement for the Definitive Termination of the Conflict between the rebel group Fuerzas Armadas Revolucionarias de Colombia – Ejército del Pueblo (FARC – EP) and the Colombian government, signed in 2016. By providing strategies aimed at involving local communities in conserving biodiversity, improving their livelihoods and addressing land-related conflicts around national parks by promoting dialogue between different stakeholders the HECO project compliments the Government of Colombia's efforts. Land conflicts are to be resolved within the framework of the peace agreement and the Colombian protected area system is to be sustainably financed by "Herencia Colombia"

Alignment with National Development Plan 2018-2022

404. The Colombian National Development Plan establishes strategies for the transformation of production systems into sustainable and climate-smart models (which include restoration, conservation, silvo-pastoral systems, agroforestry, and aquaculture), and identifies the need to develop specific actions to strengthen local capacities to achieve these goals. Project activities will contribute to the National Development Plan by supporting the national and regional strategies to reduce deforestation and promote comprehensive approaches for

enhancing conservation of natural ecosystems represented in the protected areas system and the neighboring landscapes.

405. Also, by taking a landscape approach, the project will provide the framework for increasing stakeholders' participation, aligning policies and land planning instruments, and implementing coordinated actions between governments, private sector, and civil society in the SINAP and other environmentally strategic areas, as mentioned in the Plan. Following the strategies of the National Development Plan, the project will support the implementation of a package of tailored interventions defined according to the mitigation and adaptation needs of each of the selected mosaics, including incentives for conservation zero-deforestation agreements, promotion of biodiversity-based products, the transformation of production sectors and production systems targeted to improve the adaptive capacity of local livelihoods vulnerable to the impacts of climate change and reduce GHG emissions.

Alignment with Nationally Determined Contributions

406. The national government presented their updated National Determined Contribution (NDC) to the UNFCCC in 2020, stating its intent to reduce national greenhouse gas emissions 51% by 2030 against the baseline. The 2015 & 2020 NDCs submitted to the Paris Agreement identify Agriculture, Forestry, and other Land Use (AFOLU) interventions as vital mitigation actions, especially given the enormous significance of forest carbon stored in the Colombian SINAP. Reduction of GHG emissions caused by deforestation is a high government priority. The Colombian NDC goal of reducing emissions from deforestation by 2030 includes an expected deforestation trend of 155,000 ha / year in 2022, 100,000 ha / year in 2025 and 50,000 ha /year in 2030).

407. The project will help to achieve the NDC by making progress against specific targets defined in the mitigation and adaptation goals, primarily through the sustainable and integrated management of 4 mosaics that generate early climate mitigation and adaptation benefits and respond to the greatest current pressures on ecosystem services, particularly water regulation and provisioning. The project will contribute to the compliance and implementation of the following goals:

Table 24. Project contribution to the Colombia's Nationally Determined Contributions

Adaptation		
Protection and conservation actions in 24 water supply basins in municipalities that are susceptible to shortages due to low rainfall season and rainy season.	Develop multi-sectoral interventions for conservation, protection and management in the basins and sources supplying priority aqueducts defined by the Ministry of Housing, City and Territory.	The project will expand the coverage of hydro-meteorological data collection, particularly in crucial water basins Chinchiná, Amaime/Cerritos, Fundación Aracataca, Rio Seco, Alto Guatiquia, Alto Guayuriba to allow for improved management (Activity 2.1.1). Additionally, the project will protect the source waters for urban centers through collecting climate-relevant parameters from the interaction between remote sensing data and field work in high elevation wetlands (paramos), forest and the integration into monitoring and evaluation systems from local to national scales (Activity 2.1.2) Therefore the project will contribute to this goal to the extent that the basins to intervene are defined.
15% increase in the percentage of unrepresented or underrepresented ecosystems or ecosystem analysis units included in the SINAP	Increase the ecosystem representation in SINAP as a contribution to the adaptation of the territories to climate change.	Through the gazettement of a new protected area (484,270 hectares of the Serranía de San Luca) and expansion of the Sierra Nevada de Santa Marta PNN by approximately 170,000 hectares, the project will increase the representation of SINAP. (Activities 3.1.1 and 3.1.2)

Increase of 18,000 hectares in the process of restoration, rehabilitation and/or ecological recovery in protected areas of the System of National Natural Parks and its areas of influence.	Implement restoration, rehabilitation and recovery actions to improve the integrity of protected areas and their areas of influence to improve their capacity to adapt to climate change.	The project will restore 8,536 hectares and rehabilitate 5,912 hectares in protected areas of SINAP and will restore 2,750 hectares and rehabilitate 3,254 hectares in its areas of influence. (Activities 3.1.3, 3.2.1, 3.2.2)
Mitigation		
Ecological restoration: Initiative for the massification of ecological restoration, which seeks to start or accelerate processes of restoration of a degraded, damaged or destroyed forest ecosystem area in relation to its function, structure and composition, in line with the National Restoration Plan.	Restoration of 962,615 hectares (2015-2030).	The project will restore 7,026 hectares of forest ecosystems. (Activities 3.1.3: 4,276 ha, 3.2.2: 2,750 ha)
Intersectoral Reduction of Deforestation (REDD +) a) Comprehensive Strategy to Control Deforestation and Forest Management b) REDD + Programs: Joint Declaration of Intent / Amazon Vision / Sustainable Low-Carbon Development for Orinoquia c) Intersectoral actions and control of deforestation coordinated in the CONALDEF and according to the CONPES document "National policy for the control of deforestation and forest management" including measures of the respective sector PIGCCS. d) Zero Deforestation Agreements with the Meat, Dairy, Palm Oil and Cocoa Chains; and Intersectoral Pact for Legal Wood in Colombia. e) REDD + projects f) Payment for environmental services g) Articulation with a forest fire goal	Reduce the deforestation rate to 50,000 hectares / year by 2030	The project will complete the designation and gazettement of 1 new protected area covering 470,856 hectares and will expand Sierra Nevada de Santa Marta National Park by an additional 181,753 hectares to reduce deforestation trends, preserve forest connectivity and protect source waters (Activity 3.1.1., 3.1.2)

Alignment with the Climate Change Policy

408. In 2002, the Ministry of the Environment and the National Planning Department prepared the Climate Change Policy guidelines, which outlined the main strategies for mitigating climate change in the framework of the UNFCCC, the First National Communication on Climate Change and the Kyoto Protocol. The Climate Change Policy objective is to incorporate climate change management into public and private decisions to advance on a climate-resilient development path. The long-term goal, to which this general objective contributes, is to make the country carbon neutral. The project contributes to the achievement of these goals and the established activities in the Climate Change Policy action lines, as follows:

i. By supporting the rehabilitation 3,254 ha of degraded lands to increase ecological integrity of targeted landscapes and reduce protected areas encroachment, 12,000 ha of sustainable forest management and by supporting the restoration 2,750 ha of forest, the project is aligned with the strategic line 7.4) Management and conservation of ecosystems and their ecosystem services for low-carbon and climate-resilient development, specifically with action line 1) Promote the conservation and restoration of terrestrial and marine-coastal ecosystems that provide environmental services that favor adaptation to climate change of socioeconomic systems, such as water regulation services and protection against floods, and advance in the development of adaptation measures based on ecosystems. (Activities 3.2.1. and 3.2.2)

ii. By expanding the coverage of hydro-meteorological data collection for improved management of targeted landscapes and affected vulnerable populations and by introducing improved systems for dissemination

of usable climate information to climate vulnerable populations for improved decision-making the project will be contributing to action line strategic line 7.4) Management and conservation of ecosystems and their ecosystem services for low-carbon and climate-resilient development, specifically with action line 2) Incorporate climate change impact scenarios in the management, conservation and restoration of priority coastal terrestrial and marine ecosystems due to their vulnerability, including that related to the National System of Protected Areas and its buffer zones. (Activities 2.1.1. and 2.2.3).

iii. By facilitating the incorporation of climate considerations into regional and territorial land use planning, the project will also contribute to strategic pillar 7.4) Management and conservation of ecosystems and their ecosystem services for low-carbon and climate-resilient development, specifically to the lines of action 3) Incorporate management and conservation actions of ecosystems and their services into territorial planning and sector development, taking into account their role in reducing emissions and increasing territorial and sector adaptation (Activity 1.1.3); and action line 4) Strengthen forest governance to prevent deforestation and forest degradation (Activity 3.1.3).

Alignment with the National Policy for Deforestation Control and Forest Management

409. In December 2020, the Colombian government approved the National Policy for Deforestation Control and Sustainable Forest Management (CONPES No. 4021), which defines a 2030 goal to achieve zero net deforestation through the implementation of four strategic lines: 1) promote sustainable forest management to improve local wellbeing and economic revenues, 2) articulate cross-sectoral actions allowing to manage forests and address territorial conflicts, 3) promote prevention and control territorial strategies to reduce illegal dynamics, and 4) strengthen information management for decision-making.

410. This project will contribute to this Policy by reducing land use conflicts into and directly around the Protected Areas System, as well as improve the prevention and control threats into and around PAs; enhance the monitoring system to produce better information for decision making; and promote territorial governance to have a better articulation between cross-sectoral sectors.

Alignment with National Policy for the Consolidation of the National System of Protected Areas

411. More recently in November 2021, the Colombian government approved the National Policy for the Consolidation of the National System of Protected Areas ("SINAP", CONPES No. 4050). This policy also defines a 2030 goal, with a specific strategic line aimed at "reducing the drivers of degradation of the natural and cultural values conserved in the National System of Protected Areas". The policy proposes to take steps to reduce illegality around and into the protected areas, including preventive, educational, and awareness control measures. It will also develop actions aimed to promote the sustainable use of biodiversity, through the development of sustainable productive enterprises. Likewise, the Ministry of Environment and Sustainable Development together with the Ministry of Housing, City and Territory and National Parks, will lead the development of strategies to improve territorial planning instruments at various levels and with different stakeholders. For its part, effective management in protected areas is also considered part of actions to reduce pressures in these areas, including deforestation and its associated drivers.

412. As detailed throughout this proposal, the project (and HECO PFP) focuses on the drivers of deforestation and degradation within the protected areas and their immediate connectivity corridors. It contributes to strengthen the SINAP by 1) increasing the extension of PAs, 2) improving the effective management of existing PAs, 3) promoting the connectivity, 4) distributing the benefits of the PAs and 5) securing the financial sustainability of the system.

413. While the project is most notably aligned with the "SINAP" (CONPES 4050), it also contributes to the goals defined within National Policy for Deforestation Control and Sustainable Forest Management by reducing land use conflicts into and around the Protected Areas System, improving the prevention of threats directly outside PAs, controlling threats into PAs, enhancing the monitoring system to produce better information for decision-making and promoting territorial governance to have a better articulation between cross-sectoral sectors.

Capacity of Accredited Entities and Executing Entities

414. WWF-US, in coordination with WWF Colombia and Fondo Patrimonio Natural has led the design of this project. As detailed in B.4 Implementation Arrangements, World Wildlife Fund, Inc. (WWF US) will serve as the Accredited Entity (AE), whereas Fondo Patrimonio Natural will serve as Executing Entity and WWF Colombia as Executing Entity.

WWF-US, Accredited Entity

415. WWF is among the world's leading conservation organizations, with more than a half century of experience and a presence in over 100 countries. Attention to climate change mitigation and adaptation is mainstreamed across WWF's work through innovative and science-based programs. As a leading conservation organization, an increasing portion of our work centers on designing and delivering Nature-Based Solutions (NBS) to climate change to address both mitigation and adaptation challenges. The WWF Network brings significant experience executing climate change projects with Multilateral Development Banks (MDBs) and private sector investors in climate change projects. Based on the model already seen by the GCF Board in the Bhutan for Life project (FP050), this project is presented under WWF's GCF programming area, Climate Benefits from Sustainably Managed Protected Areas (included within the Entity Work Program), as a cornerstone of WWF's regional vision and strategy for the Amazon, which will bring together Project Finance for Permanence (PFP) projects in Brazil, Peru, and Colombia under WWF's Earth for Life initiative. The model demonstrated in Bhutan has provided a true paradigm-shifting solution, using GCF funds to leverage blended investments from GEF, government, and private philanthropic donors to support milestone-based payments that lead to the sustainable financing and management of protected area networks which generate significant climate benefits (e.g., carbon conservation, water regulation for vulnerable populations, ecosystem resilience).

Fondo Patrimonio Natural, Executing Entity

416. The Natural Heritage Fund was created in 2005 as a non-profit foundation, with mixed participation, to conserve the natural areas of Colombia. The Fund strategically invests in the conservation and protection of natural heritage and the ecosystem services they provide (water, air, food, biodiversity of flora and fauna and landscapes, among others). It designs and implements financial mechanisms, executes and administers programs and projects based on the safeguarding of the natural, cultural and ethnic landscape of Colombia.

417. Patrimonio was selected for this role because of its experience and track record in administering conservation funds from diverse donors in Colombia. The Fund will be acting as the financial mechanism of the project and will administer the resources through a specific subaccount, under the guidelines of the Heritage Colombia Steering Committee.

WWF Colombia, Executing Entity

418. WWF Colombia began work in 1964, supporting conservation actions. In 1993, it consolidated its presence in the country as a Program Office and 2021 as a National Office, an independent, self-governing member of the international WWF Network. WWF Colombia's work integrates actions at different scales, from local to international, in priority landscapes of the ecoregional complexes of the northern Amazon, the Orinoco, the Andes and the Pacific. The organization seeks to harmonize the conservation of natural resources with human needs and has focused its work on the creation and improvement of conservation areas, the protection of emblematic and threatened species, the development of sustainable production alternatives and the promotion of citizen participation, with a particular emphasis on the governance of territories and natural resources.

419. WWF Colombia was selected as an EE because of its experience and track record in carrying out similar conservation activities in Colombia; it has assisted local communities and government entities, has promoted public institutes and communities in the development of participatory climate monitoring systems; and has almost 30 years of experience applying an inclusive, multi-sector approach to conservation approach that focuses on promoting economic alternatives and facilitating the adoption of agreements to reduce conflicts and land use changes.

Role of the National Designated Authority

420. The National Planning Department serves as Colombia National Designated Authority (NDA). It is a technical state entity that promotes the implementation of the country's strategic vision on social, economic and

environmental issues through the design, orientation and evaluation of Colombian public policies, management and allocation of public investment and the integration of this into Government plans, programs and projects.

421. The NDA is responsible for sharing the progress of the project and coordinating with other GCF projects approved by the chartered body within Colombia. The NDA will have an important role in project implementation related to the intersectoral coordination of national and regional level actions and will participate in the supervision of execution of the project, as coordinated by the AE.

Engagement with relevant stakeholders

422. In December 2015, during UNFCCC COP 21, Colombia's Ministry of Environment and Sustainable Development, Colombia's National Parks Agency, the Gordon and Betty Moore Foundation, the Natural Heritage Fund, WWF, Wildlife Conservation Society (WCS) and Conservation International (CI) signed an agreement that launched Heritage Colombia (HECO) and established a technical committee with the participation of each of these institutions.

423. The design of the project has been led by this technical committee, working in a participatory manner with multiple stakeholders, including Colombia's Institute of Hydrological and Meteorological Studies (IDEAM – in Spanish) and the technical staff from the Association of Regional Autonomous Corporations and Sustainable Development (ASOCARS– in Spanish). HECO has held stakeholder workshops in each of the targeted landscapes. Also, the Inter-American Development Bank (IADB) has given its support to this initiative and offered to coordinate HECO with the Colombia Sostenible Fund and the development of the Leticia Investment Platform.

424. In early 2018, a Spanish version of this concept note was reviewed by Colombia's NDA technical body (Cuerpo Colegiado) and was selected for NDA endorsement. A draft of this funding proposal was initially submitted to the NDA in April 2021. WWF received the no-objection letter (NOL) in November 2021, included as Annex 1. Finally, in August 2022, with the start of the new government, WWF Colombia had meetings with the new National Parks Director, the Climate Change Vice Minister and the Biodiversity Minister who provided strong support to HECO considering the project's direct alignment with the President's agenda.

425. The engagement with civil society organizations, specifically, with indigenous peoples and afrodescendant communities have been ongoing since the initial design process started based on national and international standards regarding free, prior and informed consent and prior consultation, as well as the application of WWF's social and environmental safeguards. It is important to clarify that of the total project area, only 2% are in indigenous reservations and Afro-descendant Communities, mainly in the Caribbean region, so, the consultations are only applicable to specific areas. Table 25 summarizes key actors who have been involved in the process. Further details on the project's engagement with relevant stakeholders, including the National Designated Authority, can be found in Annex 7.

Table 25. Key actors involved in the process

National Planning Department; Ministry of Environment and Sustainable Development. At the national level, there will be ongoing coordination with the Ministry of Agriculture and Rural Development, the National Unit for Disaster Risk Management (UNGRD), as well as Presidential Agencies, such as the Presidential Council for Stabilization and Consolidation, the Agency for Territorial Renewal/ Recovery (ART), the Rural Agricultural Planning Unit (UPRA).			
The Sierra Nevada de Santa Marta National Park, and Cienaga Grande Flora and Fauna Sanctuary,	PNN Las Hermosas, PNN Nevados	PNN Chingaza	PNN Macarena PNN Chiribiquete
CorpaMag, CorpoCesar, CorpoGuajira	CVC CARDER CorpoCaldas	Cormacarena CorpoGuavio, Corporinoquía	CDA
SIRAP Caribbean, Caribbean Regional Climate Change Node	Regional Subsystem of Protected Areas, North-western Andes (SIRAP Northern West Andes), Coffee Growing region Regional Climate Change	Regional Subsystem of Protected Areas, North-western Andes (SIRAP) Andes Nororintales), Regional Subsystem of Protected Areas,	SIRAP Amazonía- SIDAP Guaviare Amazon Regional climate change node (NORCCA)-Guaviare subnode

	node, Southeastern Committee- SIDAP Valle	Orinoquia, Eastern Central Andes regional climate change node	
Kogui, Malayo and Arhuaco Reserve (CIT-CTC), Kankuamo reservation in the Río Seco district, Valledupar rural area, Afrodescendant communities of Guacoche and Guacochito administrative districts and community councils of Arcilia, Tunez and Cardona located in the rural area of Valledupar city, Cesar and the Community council of Obatalá, Fundación, Magdalena, the Assemblies for Community Action (JAC in Spanish) and Campesino organizations in the Besotes -Perija and the Corridor SNSM – CGSM, Fundación Juntos Trabajamos, Fundación Fuerza Verde, FUNDEBES Foundation: Los Besotes Ecological Foundation	Management Agreement for the management of the Chinchina watershed/basin, River Chinchina watershed corporation, (RESNATUR), The Assemblies for Community Action from: Manizales (La Enea, Bato Tablazo, Buenavista y Agua Bonita) Villamaría (El Pindo, Galllinazo y La Floresta) Palmira (Cambia, Toche y Tenjo) and El Cerrito (Carrizal, El Moral, Tenerife y Ajuí)	Tourist Corporation of Arrieros del Guatiquía (Cortuagua), Association of agro-ecological producers of Chingaza Massif (APRAMAC) Fundación conserva de la Calera, Asofrimeta, The Assemblies for Community Action from the communities of La Caja and El Rosario in Choachí, Chinia and Quebrada Blanca in Fómeque and San Luis de Ladera and San Isidro de Parrado in El Calvario	Guaviare Peasant Reserve zone (ZRCG), Asojuntas San José del Guaviare, Asojuntas del Capricho

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

426. The project is fully embedded as a central approach in the Government's climate change action strategy as put forward in its 2020 NDC to deal with carbon emissions and loss of climate resiliency services resulting from loss of forest ecosystems. In this context, the project demonstrates strong efficiency and effectiveness in delivering its primary targeted impacts within the GCF results framework: (i) reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks; (ii) increased resilience of most vulnerable people and communities; and (iii) improved resilience of ecosystems and ecosystem services – primarily through sustainable and integrated management of the five targeted mosaics. It does so by addressing (1) key financing barriers, including the capacity of key territorial entities to access and sequence current and new funding instruments (as already mentioned); and (2) key barriers to effective management of core areas and the broader landscape and area of influence of the PA, specifically as it relates to local and sectoral capacities to implement sustainable land practices and develop climate change adaptation measures.

427. To address these barriers and to achieve the targeted impacts effectively, the project proposes an approach and related activities that are coherent with the new Colombian management paradigm for conservation landscapes that allow for sustainable production using zero deforestation models, and protection within public and private PAs alongside each other. To ensure the efficient implementation of these activities across the prioritized landscapes, the project is nested completely in the PFP model under Heritage Colombia that brings together relevant sectors and stakeholders at different levels and secures funding from public and private sources towards a common strategy and goals, catalyzes commitments to effective policies and activities for long-term climate-responsive planning and conservation and creates effective governance schemes to achieve greater climate and conservation outcomes than through independent or piecemeal projects.

428. The project will align and coordinate government and philanthropic investments into a single national effort to achieve long-term resilient ecosystems and the community livelihoods in the priority landscapes. This investment will be the cornerstone for the broader HECO program, thereby ensuring that lessons learned, and capacities built during project implementation will contribute to greater effectiveness and efficiency of the implementation of the entire program in other landscapes and at national scale.

429. The grant financing through the project builds on funding from existing financial sources – mostly through state budgets – and will be used to implement effective governance and management of targeted geographies to maintain or enhance their climate benefits and to lay the groundwork for mobilizing sufficient long-term financing sources to maintain these levels of management by national, regional and local authorities in a participatory manner. As indicated in section B.5, the level of concessionality is warranted, with grant financing from multilateral and bilateral donors directed to and well matched with project activities that would have little potential to attract private investment or non-grant financial instruments for their implementation, but that create the enabling conditions to enable private sector investments at a later stage, for example through the HECO Impact Hub (see section B.6 for more detail).

430. While the co-financing ratio (2.4:1, including private philanthropy as described in B.5) is significant for project implementation, the project is also designed to leverage significant additional public and private funds over the long-term owed to the sustainable financing approach of the PFP model in which it is nested (see section B.6 for more detail).

431. The project aims to achieve efficient implementation and to ensure institutional and social sustainability by working with a significant number of well-known and knowledgeable partners in each of the prioritized landscapes. The partners include national research institutions, regional governments and various local community organizations.

432. The geographies targeted by the project cover an area of 5,442,283, representing 5% of the country's continental territory and 9.1% of its remaining forests. They include both protected areas (already under or designated to be included in the system of national, sub-national, and local protected areas) and adjacent lands under other forms of tenure to be managed as integrated mosaics (see Table 26 for details on extension covered under each major project strategy).

Table 26. Summary of extension (ha) under each major project strategy

	Conservation (ha)		***Restoration (ha)***		***Rehabilitation/include productive systems (ha)***		**Total (ha)**
	Forest	*Other land & ecosystems*	*Connectivity*	*EbA in Risk areas*	*Connectivity*	*EbA*	
3.1. Management of protected areas improved to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits (include Effectiveness management / expansion or creation or new PAS)	5,382,922.12	976,977.07	4,726.23	3,810.72	3,121.87	2,791.05	6,374,349.06
3.2 Management practices improved in protected area buffer zones and connectivity corridors to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits	91,196.73	135,528.39	2,502.33	247.67	2,518.05	736.83	232,730.00
Sub Total	5,474,118.85	1,112,505.45	7,229	4,058	5,640	3,528	***6,607,079.05***
			11,287		***9,168***		
Total	***6,586,624.30***		***20,454.75***				

433. With respect to project impacts from reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation, the project intends to reduce emissions by 54.15% from historic averages for deforestation by 2030, serving as an essential component of the strategy to address forest loss and achieve national carbon neutrality by midcentury in accordance with Colombia's NDC. Total avoided emissions are estimated to be 8.1 million tCO2eq at project completion (10 years) and 40.7 million tCO2eq cumulatively over the project lifespan (30 years). According to the latest NDC update, Colombia expects to reduce emission from deforestation by 2030 to between 45.574 and 58.69 million tCO2eq with respect to its 2020 FREL. The project would therefore contribute between 13.8 and 17.8% of this targeted

reduction, and these estimates are based on a more conservative historical average, meaning the portion of the project's contributions is expected to be even larger. The total mitigation impact from reduced deforestation, forest restoration and preserved sinks corresponds to 8.9 million tCO2eq at project completion (10 years) and 46.3 million tCO2eq cumulatively over the project lifespan (30 years).

434. Despite an overall project emphasis on prioritizing and generating adaptation benefits, many of the project's activities will contribute to both goals. For this reason, the cost effectiveness calculation for mitigation of 46.3 million tCO2e has been made based on total project cost and the GCF investment. Comparing the total project cost of US$ 145.2 million to the anticipated avoided emissions yields a cost of approximately US$ 3.14 per tCO2e, and when considering the GCF investment only, this would yield a cost of around US$ 0.93 per tCO2eq. Both of these unit costs compare favorably with current willingness to pay in inter-governmental REDD+ markets of US$ 5-10 per tCO2eq and even more so compared to prices paid in voluntary REDD+ markets which routinely exceed US$ 15-20 per tCO2eq. Even at US$ 5 per ton, the 46.3 million tCO2eq in avoided emissions and removals would have a value of $229,252,525 compared to the total project cost of approximately US$ 145.2 million – before including adaptation benefits. Further, the mitigation benefits are enormous if valued at the shadow price of carbon which internalize the positive externalities from greenhouse gas emissions reductions as accepted by the World Bank, currently around US$ 41 per tCO2eq (and rising by 2.25% annually).

435. In addition to generating benefits from avoided emissions as detailed above, the project will also have a large positive benefit from securing and enhancing Colombia's forest carbon stocks and their related sinks. This plays a vital role in underpinning IPCC assumptions for pathways to net zero greenhouse gas emissions. The integrated landscapes targeted for permanent protection through international standards of effective management by the project are estimated to comprise 10.78% of Colombia's total carbon stocks, amounting to 2.8 billion tCO2eq as of 2019.

436. To achieve the mentioned impact on climate mitigation, the project aims, among others, to restore and rehabilitate in total 20,455 ha. Ecological restoration is defined as restoration of a degraded ecosystem to a condition similar to the pre-disturbance ecosystem with respect to its composition, structure and functioning. Rehabilitation aims to repair productivity and/or ecosystem services in relation to functional or structural attributes. The project aims to ensure high levels of cost efficiency in the implementation of these activities across the different landscapes based on best practices and building on lessons learned from experienced entities like WWF, Parks Colombia and Patrimonio Natural. Table 27 provides reference costs from previous experiences in the different landscapes as benchmarks for project implementation.

Table 27. Reference costs and replacement targets for restoration and rehabilitation in prioritized landscapes

Project	Year	Hectares	Activity	Cost per hectare
Corporation for Sustainable Development Northern and Eastern Amazon	2014	140	Fencing and restoration	US $ 2,976
	2015	124	Fencing and restoration	US$ 2,367
CDMB Corporación autónoma meseta de Bucaramanga	2015	40	Establishment, fencing and maintenance of 40 hectares in the El rasgon Santander Regional Park	US$ 4,033
Parks Colombia - Patrimonio Natural - ISAGEN	2015	750	Characterization, design, fencing, bioengineering works, monitoring design, plantation in 570 hectares with 100 ind / ha. And 180 hectares with 600 ind / ha	US$ 2,354
Corpocesar	2017	720	Restoration actions in dry ecosystems of the townships of Minguillo and Varas Blancas, municipality of La Paz Department of Cesar	US$ 2,294
Corponor	2018	448	Passive restoration, establishment of protective fences	US$ 883
4G Road Projects North Santander	2018	1	Includes fending no greater than 250 linear meters (per ha), 660 plants per hectare, includes 10% replacement) barbed wire fence with four (4) threads and wooden posts & planting of seedlings height of 0.6 m	US$ 6,050

			includes agreements with owners (establishment of land titles)	
	2018	1	Includes insulation no greater than 250 linear meters (per ha), 990 plants per hectare, **includes 10% replacement)**, fence of barbed wire with four wire and wooden posts and planting of seedlings height of 0.6 m	US$ 7,650
Parks Colombia - WWF	2018	150	Rehabilitation approach; includes the process of generating agreements, ecological and socioeconomic diagnoses, design of a monitoring system, value chain studies and business plans	US$ 6,380
4G Road Projects Antioquia	2019	1	Includes fencing, and sowing of 1100 seedlings **that includes 10% replacement**	US$ 4,332

437. Compared to costs for similar restoration and rehabilitation interventions in the priority landscapes, the project targets per hectare costs at the same level and below these costs, applying different strategies for efficiency, like setting up nurseries or buying from existing nurseries in the case of commercial agroforestry species, working with in-kind contributions from communities and building local expertise to monitor restoration success. Table 28 provides the per hectare costs of the project for different types and localities of intervention.

Table 28. Costs per hectare for restoration and rehabilitation under the project

Type and location of restoration	**Cost per hectare**
Ha. Restoration (PNN)	US$ 2,015 (excludes plant production, as this is included in nursery costs)
Ha. Restoration (Otras)	US$ 1,523 (excludes plant production, as this is included in nursery costs)
Ha. Silvopastoral	US$ 1,320 (excludes plant production, as this is included in nursery costs)
Ha. Agroforestry	US$ 1,580
Ha. Agroforestry Amazon and Orinoco Transition	US$ 1,716
Nursery Establishment	Cost per nursery: US$ 228,571

438. In addition, by including revenue-generating species in rehabilitation schemes that ensure income, avoid soil degradation and provide support to food security, the project ensures longevity of restoration investments without depending on recurrent support from public funding sources to maintain restoration and rehabilitation outside protected area.

439. In addition to the described mitigation impacts, the project interventions seek to improve the provision of water regulation and reduce risks to vulnerable populations associated with extreme weather events including droughts, flooding and fire. The populations living within the landscapes targeted by the project include marginalized groups – including indigenous peoples and local communities – that are considered among the most t climate vulnerable people within Colombia, in some cases especially women. While the project's targeted beneficiaries center on rural communities and sectors directly reliant on rainfall for their water supply, interventions will also indirectly benefit densely populated urban areas that rely on montane ecosystems (such as the paramos) for their water.

440. The project seeks to improve their engagement in local and regional governance, participatory land and water management, and to improve their adaptive capacity through targeted interventions. These interventions are expected to directly benefit 329,658 people in the targeted mosaics. For the direct beneficiaries, this works out to US$ 130.36 per person for GCF's total investment. This indicative cost will vary across the landscapes and is comparatively high due to the remoteness and the low population density in several of the priority sites. In this context, it is very important to also consider the number of indirect beneficiaries of this project. Their number amounts to more than 16,944,180 people (33.64% of the Colombian population), who live downstream of the project landscapes and supported protected areas and therefore experience important benefits with regards to ecosystem services they depend on, such as water regulation and water provision, among others. Management

effectiveness interventions and the implementation of ecosystem-based approaches in the target landscapes and PAs help ensure the provision of these crucial ecosystem services to a large number of beneficiaries downstream at US$ 2.54 per person for GCF's total investment.

441. Key outputs that were generated in the economic appraisal of the project are outlined in Table 29, including the economic costs, benefits, Economic Internal Rate of Return (IRR), Net-Present Value (NPV) and benefit/cost ratio. These results are presented for Component 2 and 3 as well as for the total Funding Proposal (FP). Both components display positive and high NPVs. Component 2 has an Economic IRR of 13%, reflecting the value that improved CIS would have for Colombian society. Both Component 3 and the Total FP have infinite Economic IRRs. This is because there are no years in which projected net benefits are below zero for Component 3. The NPV of both Component 3 and the whole FP were both estimated using the social cost of carbon to measure mitigation benefits. For the full project the NPV is higher than US$1 trillion, reflecting the staggeringly high value that Colombian tropical forests have to global society for their role in climate regulation. This result is underscored by the conservative nature of the calculations used to estimate it [1].

Table 29. Economic appraisal indicators for the project

Component	Economic costs (US$)	Economic benefits (US$)	Economic IRR	Economic NPV (US$)	Benefit/cost ratio
2. Participatory monitoring systems generate climate information used for improved decision-making in territorial planning	16,823,223	34,015,660	13%	17,192,437	2.0
3. Land and forest management improved, and restoration implemented to reduce carbon emissions and strengthen adaptive capacity of vulnerable communities	135,745,487	1,225,032,458	∞	1,089,286,971	9.0
Total Funding Proposal	**170,897,876**	**1,259,048,118**	∞	**1,088,150,242**	**7.4**

442. A closer look at the distribution of costs and benefits reveals that the vast majority of the project's benefits would accrue to global society through maintaining Colombia's significant role in global climate regulation. Considering that the costs of mitigation have traditionally been borne by the Colombian state, this points to a market failure in the form of a positive externality. The analysis further reveals that benefits to Colombian society from enhanced climate information systems (Component 2) would be substantial and would accrue to a wide array of households and economic sectors, especially those that are sensitive to weather and climate, including the rural poor who practice subsistence agriculture, as well as commercial agriculture and the energy sectors. Finally, co-benefits estimated were found to be relatively modest. This is likely the result of the highly conservative form of benefits transfer approach used (the four ecosystem services measured were estimated to be worth less than US$10/ha/year each). However, the benefits of these ecosystem services would accrue to a wide array of households and sectors and therefore constitute a public good. Maintaining the resilience of the ecosystems that generate these and other ecosystem services will require climate-sensitive landscape-level management as envisioned in the project.

Table 30. Distributional analysis of costs and benefits.

Cost	**Present Value (US$)**	**Incurred by**
Direct	170,581,516	Colombian society; GCF donor country society; WWF donors
Opportunity costs	58,969,774	Cattle ranchers; smallholder crop farmers; agribusinesses; logging companies; mining companies
Benefit	**Present Value (US$)**	**Accrues to**
Enhanced Climate Information Systems	34,015,660	Colombian society, especially populations and sectors that are vulnerable to Climate Change
Avoided losses in Climate Regulation services	1,193,195,842	Global society, especially populations and sectors that are vulnerable to Climate Change
Avoided losses in nonwood forest products, water services, habitat/species protection and recreation	31,836,616	Colombian society and in some cases global society, especially those populations and sectors that rely on ecosystem services as productive inputs or for their well-being

443. The financial analysis for private beneficiaries shows financial viability of the project interventions of rehabilitation schemes that include sustainable production systems and on-farm support for climate adaptation. While traditional production schemes prove to be financially inviable over the long term in the context of climate change, the support for sustainable and climate-adapted agroforestry and silvo-pastoral production schemes in the project intervention sites provides financial security for vulnerable populations over the long term. Stress test scenarios for the private beneficiaries prove that project interventions with GCF support in the form of grants stay financially viable even in the situation of cost increases or revenue decreases of up to 20%. Through the financial analysis it is projected that the Net Present Value (NPV) generated by the Project over a 20-year time horizon will be US$ 40,230,349 with a FIRR of 32%. This represents a more than three-fold increase in NPV and more than double the FIRR relative to the Without Project Scenario under traditional production systems.

444. The proposal combines an ecosystem-based mitigation and adaptation approach, which considers the improved management of forest ecosystems in and around protected areas to reduce carbon emissions and strengthen the adaptive capacity of vulnerable communities (Component 3). Direct economic costs of managing protected areas, buffer zones and connectivity corridors, as well as opportunity costs from transitioning away from conventional livestock production, add up to US$ 133,116,927. Economic benefits from mitigation (avoided emissions), adaptation (avoided losses in climate regulation services like water provision and regulation, flood and landslide hazard mitigation, as well as farmers' capacity to manage increasing water supply variability and weather extremes) add up to US$1,225,032,458. As a result, the management of protected areas has an estimated benefit/cost ratio of 9.2, an infinite economic internal rate of return and a NPV above US$ 1 trillion, reflecting the enormous value of Colombia's forests for climate regulation. In addition, the development of participatory monitoring systems (Component 2) contributes further adaptation benefits by providing real-time early warning information on weather hazards to help reduce impacts to communities from extreme rain, flooding, drought and fire events. This enhanced climate information system will have an economic cost of US$ 16,900,609 and economic benefits of US$ 34,015,660, with a benefit/cost ratio of 2.0, an economic rate of return of 13%, and a net-present value of US$ 17,115,051.

445. To maximize EbA benefits, the proposal follows current global best practice for implementing nature-based solutions for adaptation established by IUCN[156], Friends of Ecosystem Based Adaptation (FEBA)[157], and the Oxford Nature Based Solutions Initiative[158], as well as a growing robust peer-reviewed literature evaluating the effectiveness of restoration and rehabilitation for adaptation and resilience. All 8 criteria from the IUCN Global Standard on NbS have been carefully considered within the project's EbA approach, starting with a clear definition of the adaptation challenge as the need to secure critical climate adaptation services in the face of climate risk compounded by increasing deforestation and degradation resulting from insufficient protected area management. Climate risk has been assessed for each mosaic based on the unique hazards, level of exposure and vulnerability of communities, so that ecosystem-based adaptation actions can be designed to meet context-specific needs. In addition to adaptation outcomes related to disaster risk reduction and increased water and food security, mitigation and biodiversity benefits will also be quantified, to evidence the full value of EbA. Other key aspects include the treatment of each mosaic as a social-ecological system, to develop EbA interventions that address the complexity of each intervention landscape. These solutions will be delivered at scale, working with local communities on mechanisms to secure sustainable production and resilient livelihoods through the protection and restoration of ecosystems within protected areas. Broader governance structures will also be developed to enhance multi-sector capacity and engagement in protected area management, by creating enabling conditions for climate-responsive planning and development through policy harmonization and articulation (e.g., municipal territorial planning and environmental planning instruments). Governance processes will be inclusive, targeting synergies while balancing trade-offs to maximize benefit delivery and secure distribution.

446. The proposed EbA interventions will be managed adaptively, through a robust monitoring, evaluation and learning (MEL) plan that supports periodic assessments of the interventions' effectiveness to address climate

156 https://portals.iucn.org/library/node/49071

157 https://www.iucn.org/news/ecosystem-management/202004/launch-feba-guidebook-monitoring-and-evaluating-ecosystem-based-adaptation-interventions-0

158 https://www.naturebasedsolutionsinitiative.org/

adaptation challenges. In addition, it will support a continuous process of iterative learning to manage change and avoid maladaptation, and to support the replication and scaling of these interventions. Best practice on developing and operationalizing effective MEL for EbA[159], includes the application of a theory of change approach as a results framework, the participatory selection of context-appropriate outcome (process-based) and impact (results-based) indicators with local stakeholders, as well as the inclusion of mechanisms that facilitate participation and ownership, and ensure accountability and transparency. The proposal has carefully considered common challenges of MEL for EbA, such as the difficulty of defining clear causal pathways between EbA interventions and the intended outcomes and impacts, as well as of identifying consistent indicators to analyze causal effects of complex social-ecological interactions; accounting for long-time horizons needed to observe different adaptation benefits; and tracking multiple objectives and co-benefits.

[159] GIZ, UNEP-WCMC and FEBA (2020) Guidebook for Monitoring and Evaluating Ecosystem-based Adaptation Interventions. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn, Germany.

E. LOGICAL FRAMEWORK

*This section refers to the project/programme's logical framework in accordance with the **GCF's Integrated Results Management Framework** to which the project/programme contributes as a whole, including in respect of any co-financing.*

E.1. Project/Programme Focus

Please indicate whether this proposal is for a mitigation or adaptation project/programme. For cross-cutting proposals, select both.

☒ Reduced emissions (mitigation)

☒ Increased resilience (adaptation)

E.2. GCF Impact level: Paradigm shift potential (max 600 words, approximately 1-2 pages)

This section of the logical framework is meant to help a project/programme monitor and assess how it contributes to the paradigm shift described in section D.2 above by applying three assessment dimensions - scale, replicability, and sustainability.

Accordingly, for each assessment dimension (see the definition per assessment in the accompanying guidance note), describe the current state (baseline) and the potential scenario (target) and rate the current state (baseline) by using the three-point-scale rating (low, medium, and high) provided in the guidance note. Also describe how the project/programme will contribute to that shift/ transformation under respective assessment dimensions (scale, replicability and sustainability). In doing so, please refer to section B.2(a) (theory of change).

Assessment Dimension	Current state (baseline)		Potential target scenario (Description)	How the project/programme will contribute (Description)
	Description	Rating		
Scale	31 of the 39 PAs in the country (79%) have experienced increased deforestation in the post-conflict years. Within the biogeographical Amazon mosaic several parks have suffered notably severe upswings in deforestation following the peace agreement. Data indicates that most finance currently being directed at addressing deforestation in Colombia is focused on land outside of protected areas where commodity supply chains are driving the problem. The limited amount of finance being channeled into the country's protected areas to reduce and avoid deforestation through conservation is a major gap in the landscape.	Medium	A shift in the the deforestation and financial paradigms affecting protected areas avoiding emissions and enhancing the climate resilience of ecosystems, thereby complementing the work being carried out by other investments in combatting commodity-driven deforestation in surrounding landscapes, by addressing barriers to the achievement of Colombia's NDC and SINAP's 2030 goals.	The project will strengthen the financial and technical capacity of protected area governance, improve climate-responsive decision-making and planning through the provision of climate information, and enhance the management of SINAP across protected areas in targeted landscapes increasing emissions avoided and building climate resilience.

Replicability	Colombia is transitioning to an innovative management paradigm and financing model for the landscapes in which PAs are immersed, one in which production and protection are merged to conserve these strategic ecosystems and incentivize agricultural production with low impacts on forests, aligned with zero deforestation models. On the financial front the country is committed to improving and expanding the diversity of economic and financial instruments to fund stakeholder needs across these landscapes. To support this transition a new national policy focused on the consolidation of the SINAP 2020-2030 was approved by the National Protected Areas Commission (CONAP) in May 2021 and officially launched by the president in October 2021. However, currently, there is limited investment in addressing or avoiding deforestation in Colombia's protected areas, so replication is not yet possible.	Low	If the adaptation and mitigation benefits of focusing financial flows towards addressing and avoiding deforestation across landscapes where protected areas are located, the approach can be replicated across all protected areas in the country, region and even internationally.	The project will improve protected area and forest management, and restore degraded areas. This will strengthen the resilience of ecosystems and ecosystem service supplies, and ultimately, reduce carbon emissions, and enhance the adaptive capacity of vulnerable communities.
Sustainability	Although the Colombian government has long demonstrated strong commitment to climate action and conservation goals by – among other measures – increasing PA coverage and representation in recent years, the system still faces a significant financial gap to achieve the ambitions of the NDC and SINAP 2030 policy goals. Colombia rolled out a carbon tax in 2016 as part of sweeping fiscal reforms. The carbon tax was developed by MADS and is collected from companies producing or importing fossil fuels. A quarter of proceeds are used to manage coastal erosion, reduce and monitor deforestation, conserve water sources, protect strategic ecosystems and combat climate change, while a further 5% is specifically allocated to strengthen the PA system. In October 2021, the country became the first Latin American nation to issue a sovereign green bond in its local currency. The eligible areas for use of proceeds raised include water management, ecosystem services and biodiversity. While the overall availability of these new funding streams is welcome, the 2030 SINAP goals are	Low	A paradigm including long-term sustainable financing mechanisms that channel financial resources from a diverse set of public and private sources into the management of protected areas to avoid emissions and strengthen the climate resilience of ecosystems and their services. This will support the achievement of greater adaptation, mitigation and conservation outcomes than through individual projects.	This project is applying an innovative approach of durably securing financing for PA systems and surrounding conservation landscapes: the PFP model, within the HECO programme. While PFPs are designed to leverage funding from donors and increase the level of funding commitments from the government of the country towards shared goals and outcomes during implementation, the more important aspect of this is that it seeks to build a portfolio of long-term sustainable financing mechanisms that channel financial resources from a diverse set of public and private sources to maintain the mitigation and adaptation results achieved during project implementation and ensure the sustainability of project outcomes after the project is complete. The long-term financial gap to maintain impacts achieved over time is projected at US$ 7.2 million per year.Two main

	interdependent and other significant barriers must be addressed to sustain the PA system over the long-term.			sustainable financing mechanisms will ensure that these financial needs are met over the long term: The General System of Royalties (Sistema General de Regalias or SGR) and the recently established national carbon tax.

E.3. GCF Outcome level: Reduced emissions and increased resilience (IRMF core indicators 1-4, quantitative indicators)

Select appropriate IRMF core and supplementary indicators to monitor project/programme progress. More than one IRMF (core and or supplementary) indicators may be selected as applicable for each GCF results area and project/programme outcome (as defined in the table in section B.2(b)). If IRMF indicators are unable to measure any given project/programme outcomes, project/programme-specific indicators should be developed under section E.5 (project/programme specific indicators).

GCF Result Area	IRMF Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions / Note
				Mid-term	Final[160]	
MRA4 Forestry and land use	Core 1: GHG emissions reduced, avoided or removed/sequestered	National MRV System and RENARE (National register of emissions reduction) Project baseline, mid-term and end term surveys	0 t CO_2e	3.15M t CO_2e	8.9M t CO_2e	Methodology described in Annex 22 is applied. Project lifetime: 30 years Annual emission reductions: 0.459 – 2.13M tCO_2eq Lifetime emission reductions: 46.3M t CO_2eq
TOTAL (ARA 1 and ARA 4)	Core 2: Direct and indirect beneficiaries reached	(see ARA 1 and ARA 4, below)	0 people	Direct 109,886 people (1,139 + 108,747) Indirect: 5,538,174 people	Direct 329,658 people (3,418 + 326,240) Indirect: 16,614,522 people (51% female)	(see ARA 1 and ARA 4)

[160] The final target means the target at the end of project/programme implementation period. However, for core indicator 1 (GHG emission reduction), please also provide the target value at the end of the total lifespan period which is defined as the maximum number of years over which the impacts of the investment are expected to be effective.

ARA1 Most vulnerable people and communities	Core 2: Direct and indirect beneficiaries reached	Agreements between Ecohabitats and community members Project baseline, mid-term and end term surveys Reports generated consolidatinginformation from the Desiventar database Household surveys Field visits (including interviews and field surveys) to confirm uptake and income generation of climate-resilient livelihood options, as well as improved quality and quantity of water being used by beneficiaries	0 people	Direct: 1,139 people (560 men, 579 women Indirect: 0	Direct: 3,418 people (1,680 men, 1,738 women) Indirect: 0	Direct: Number of people to apply good production practices that build on-farm resilience to increasing extremes and reduce pressures on surrounding ecosystems, and use of appropriate equipment and technologies for each landscape, in 8 places (Cuenca media y baja río Fundacion, Zona río Seco Guacoche y Guacochito, Cuenca Río Amaime y Cerritos, Cuenca Río Chinchiná, Cuenca Río Guatiquía, Nuecleo 1 Pto Nuevo, Núcleo 2 Picalojo) - annually, for a total 9 for implementation period. Sub-activity 3.2.1.c, set to begin in year 2 And number of people to benefit from technical assistance on climate resilient productive systems in Puerto Nuevo under sub-activity 3.2.1.f
ARA4 Ecosystems and ecosystem services	Core 2: Direct and indirect beneficiaries reached	Updated management plans (63 in total) Landscan data	0 people	Direct: 108,747 people Indirect: 5,538,174	Direct: 326,240 people (159,290 men; 166,950 women) Indirect: 16,614,522people (51% female)	Direct beneficiaries are defined as the number of people living in the project implementation places using two primary sources of data: current descriptions from the management plans for specific protected areas; and the last population

		Project baseline, mid-term and end term surveys Household surveys Field visits (including interviews and field surveys) to confirm improved ecosystem service supplies as a result of improved management of landscapes, as well as improved quality and quantity of water being used by beneficiaries. SWAT/InVEST modeling using landscan satellite data, combined with IDEAM hydromet station data				census (DANE 2018) updated landscan dataset (with 1km2 pixels) totaling 326,240 people (159,290 men; 166,950 women) and subtracting the number of people directly benefitting from sub-activity 3.2.1c counted under ARA1 (done to avoid double counting). Indirect beneficiaries are defined as the total rural and urban populations outside of implementation areas, but living downstream within watersheds (using the same DANE 2019 population data) whose protected areas provide important ecosystem services benefits to the watershed, including water supplies. This includes the roughly 10 million people in the city of Bogota and neighboring towns, for example, which receives 70% of its water supply from Chingaza National Park. NOTE: Estimates for direct and indirect beneficiaries are subject to change during baseline and interim data collection and analysis when a more accurate

						picture of the number of people reliant on specific water services will be determined. The majority of beneficiaries will see benefits in the latter part of the project given that water regulation and provision benefits that rely on rehabilitation and avoided destruction of natural areas take time to manifest due to ecological constraints. Definition of benefits: The benefits are a suite of services related to water regulation and provision and their relationship to hazards like flooding, drought, and landslides: maintenance of water flows to address increasing seasonal and annual variability and scarcity; and regulation of runoff and flows from increasingly extreme rainfall events, reducing localized and downstream flooding, erosion, and landslide incidence and risk. These benefits will be measured through a combined geospatial and biophysical approach, where remote sensing data (satellite) will be used to measure land cover change (compared

						to a project baseline) at year 5 (interim) and 10 (final). This measured change in land cover will then be used to analyze ecosystem services benefits of water regulation, provision, and landslide and flood hazard risk reduction through existing and new climate and hydrological stations (and modeling where appropriate) at years 5 and 10.
ARA4 Ecosystems and ecosystem services	Core 4: Hectares of natural resources brought under improved low-emission and/or climate-resilient management practice	National report of the number and extension of Protected Areas registered in the Unique National register of Protected Areas (RUNAP is its Spanish acronym). Project interim and final surveys GIS data mapping Field visits(including interviews and field surveys) to view areas under improved management and restoration	0 ha	652,549 ha as a new protected area in San Lucas mountain system and the extension of Sierra Nevada de Santa Marta National Park: Agroecosystem: 84,334.05 ha Bushland: 7,598.52 ha Forest: 476,477.00 ha Fragmented forest: 28,380.59 ha Rocky complex: 3,677.35 ha Herbazal: 22,027.91 ha Lagoon:112.28 ha Other areas: 1,045.56 ha Paramo: 8,083.13 ha River: 3,024.85 ha Subxerophytia: 2,182.56 ha Transitional transformed: 6,336.93 ha Secondary information: 9,183.23 ha	5.72 million ha of land under effective management in existing protected areas: Agroecosystem: 114,277.86 ha Bushland: 21,242.94 ha Forest: 4,277,238.64 ha Fragmented forest: 43,520.5 ha Rocky complex: 711,113.79 ha Glaciers: 25,590.74 ha Herbazal: 48,496.44 ha Lagoons: 13,164.46 ha Paramo: 353,756.97 ha Beaches: 169.17 ha Rivers: 35,755.5 ha Savannas: 7,419.79 ha Subxerophytia: 1,486.32 ha Peatlands: 3,964.68 ha Secondary information: 45,386.76 ha Swamps: 3,090.80 ha	Source: Ecosystem map (Ideam 2018) using the field Ecosystem Synthesis. Calculation using SIG intersect analysis with the implementation shapefile. Areas are calculated using Magna Sirgas Bogota projection. During the first years of implementation, the declaration route is completed, it complies with the technical parameters and consults with the communities. After completing the route, the PA receives approval from the

				Swamps: 85.05 ha 2.86 million ha of land under effective management in existing protected areas Agroecosystem: 57,138.93 ha Bushland: 10,621.47 ha Forest: 2,138,619.32 ha Fragmented forest: 21,760.25 ha Rocky complex: 355,556.89 ha Glaciers: 12,795.37 ha Herbazal: 24,248.22 ha Lagoons: 6,582.22 ha Paramo: 176,878.48 ha Beaches: 84.59 ha Rivers: 17,877.75 ha Savannas: 3,709.90 ha Subxerophytia: 743.16 ha Peatlands: 1,982.34 ha Secondary information: 22,693.38 ha Swamps: 1,545.40 ha	306,753 ha of forest improving connectivity under landscape approach 1,200 ha of lowland forest are under sustainable forest management practices following sustainable community management guidelines in the corridor between Macarena and Chiribiquete National Parks (Amazon region)	government for its declaration. There is provision by the environmental authorities, regional Autonomous Corporations and National Parks to measure and implement actions to improve management effectiveness. Willingness, interest on the part of local communities to have conservation, restoration and rehabilitation agreements.
	<u>Supplementary 4.1: Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under resoration and/or improved ecosystems</u>		0 ha	9,000 ha of terrestrial forest restored a) 3,453 ha under restoration/rehabilitation in protected areas b) 2,905 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce	20,454 ha of terrestrial forest restored a) 7,848 ha under restoration/rehabilitation in protected areas b) 6,602 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce	Source: National restoration plan. Vulnerable areas defined from information with high and very high susceptibility to landslides and floods (IDEAM) Disposition of the communities for the establishment of

				Risk in vulnerable areas in protected areas c) 2,209 ha under restoration/rehabilitation d) 433 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas	Risk in vulnerable areas in protected areas c) 5,020 ha under restoration/rehabilitation d) 984 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas	conservation and restoration agreements. Public order conditions allow the realization and implementation of restoration / rehabilitation agreements The selection of areas for restoration / rehabilitation are the most cost-effective, thus generating greater impacts in terms of nature-based solutions. Ecological connectivity is based on maintaining or reducing the distance between natural units / habitats

E.4. GCF Outcome level: Enabling environment (IRMF core indicators 5-8 as applicable)

Select at least two relevant IRMF core (enabling environment) indicators to monitor and elaborate the baseline context and project/programme's targeted outcome against the respective indicators. Rate the current state (baseline) vis-à-vis the target scenario and select the geographical scope of the outcome to be assessed. Describe how the project/programme will contribute towards the target scenario. Refer to a case example in the accompanying guidance to complete this section.

Core Indicator	Baseline context (description)	Rating for current state (baseline)	Target scenario (description)	How the project will contribute	Coverage
Core Indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient	10 mechanisms related to incorporation of climate-responsive measures in regional planning exist (5 NRCCs + 5 SIRAPs/SIDAP), but they	low	10 mechanisms related to incorporation of climate-responsive measures in regional planning exist (5 NRCCs + 5 SIRAPs/SIDAP), and are	Component 1 will see the capacity of SIRAPs and a SIDAP to implement climate-sentivie management increased, including supporting the	Multiple sub-national areas within a country

development pathways in a country-driven manner	are not operational and are ineffective (Effectiveness level 1 — Low)		almost fully operational,fully empowered and effective (Effectiveness level 3 — High)	definition of conservation priorities at the regional level with a climate focus to establish new protected areas or manage existing ones, and land use plans for each region in the face of changes due to climate change. The capacity of the Regional Climate Nodes (NRCC) within target landscapes will also be strengthened to assess climate adaptation and mitigation dimensions of landscape management. Additionally, the project will Facilitate incorporation of climate considerations into regional and territorial land use planning to achieve a common vision with climate resilience goals and deforestation targets. The mechanisms (NRCCs and SIRAPs/SIDAP exist but are not fully functional, making them ineffective.	
Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards	7 monitoring programs in 7 national protected areas include partially climate variables and are not generating climate information products to decision-making in territorial planning to reduce emissions and nature-based solutions along river basins.	low	Climate newsletters generated by 18 monitoring programs are enhanced (7 National Parks, 5 regional monitoring initiatives lead by the environmental authorities and 6 river basin early warning systems). 150 community members and 90 public staff are trained in early warning systems, climate	Under Component 2, data on climate-relevant parameters in paramos and forests will be collected (field work and remote sensing) and integrated into local- and national-level M&E systems. In addition, improved systems will be developed for dissemination of usable	Multiple sub-national areas within a country

			and carbon monitoring, leading to increase adaptive capacities and an increase in climate resilience (50%) relative to the historic baseline (high).	climate information to climate vulnerable populations for improved decision-making.	

E.5. Project/programme specific indicators (project outcomes and outputs)

*This section should list out project/programme-specific performance indicators (outcomes and outputs) that are not covered in sections above (E.1-E.4). List down tailored indicators to monitor /track progress against relevant project/programme results (outcomes/outputs). AEs have the freedom to decide against which outcomes they would like to set project/programme specific indicators. If any co-benefits are identified in sections B.2(a)(b), and D.3, AEs are encouraged to add and monitor co-benefit indicators under the "**Project/programme co-benefit indicators**" section in table below. Add rows as needed.*

Please number each outcome and output as shown below to indicate association of outputs to the contributing outcome. The numbering for outputs under this section should correspond to the output numbering in annex 4 (detailed budget plan).

Project/programme results (outcomes/ outputs)	Project/programme specific Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions / Note
				Mid-term	Final	
Output 1.1. Inter-institutional governance strengthened in targeted landscapes for improved, climate-informed and integrated land and water planning	# of SIRAP's and NRCC incorporating climate data into the design and implementation of their action plans. (1.1/2.2)	Reports from technical secretaries of SIRAP and NRCC Document reviews of action plans and implementation reports	0 SIRAPS (Eje Cafetero, Amazonia, Caribbean, Orinoquía, Western Andes and 0 SIDAP (Guaviare) have action plans that implement with regional climate goals associated with the management of water resources and the reduction of emissions due to changes. land use of the landscape.	2 SIRAPS incorporate and implement their action plan incorporating climate goals at the regional level, associated with the management of water resources and the reduction of emissions due to changes in land use in the landscape.	5 SIRAPS and 1 SIDAP implement their action plan incorporating climate goals at the regional level and actions associated with the management of water resources and the reduction of emissions due to changes in land use in the landscape.	Regional systems of protected areas have a clear and consensual path to include climate change elements in planning. 5 Siraps: Caribbean, Coffee Axis, Massif, Orinoquia, Amazonia 1 SIDAP: Guaviare

			0 regional nodes (NRCC Caribbean, Eje Cafetero, Nororiente Andino, Amazonia) and 0 subnode (Sub Nodo Guaviare) have climate action plans, implementation, monitoring, reporting and little participation of landscape stakeholders.	2 Regional nodes effectively implement their regional action plans in a participatory manner with landscape stakeholders, monitor and report effectively to the national climate change goals	4 Regional climate change nodes and 1 subnode effectively implement their regional action plans in a participatory manner with landscape stakeholders, effectively monitor and report on national climate change goals	The regional climate change nodes have technical teams and logistics aspects for the implementation of the proposed actions. 4 NRCC: Caribbean, Coffee Region, Orinoquia, Amazonia and Guaviare subnode.
	# of territorial plans incorporating climate data into design and implementation	Minutes of municipal government councils where they approve environmental (climate change) determinants Management reports of regional environmental authorities breaking down the progress in the implementation of POMCAS and PORH	40 territorial plans exist but don't have climate frameworks as a key issue to reach landscape resilient.	22 territorial plans (15 PBOT, 4, PDOT and 3 river basin management plans)	45 territorial plans (30 PBOT, 9 PDOT and 6 river basin management plans)	The inclusion of aspects of climate change in land use planning will be carried out according to the timing of the update in which these instruments are found or by administrative act.
Output 1.2 Community governance with SINAP and within connectivity corridors strengthened to improve climate-informed land and water use	# of institutional agreements within the 4 landscapes to improve water management and reduce deforestation.	Field observation visits, review of agreements and reports generated by the project monitoring unit on signing of agreements	0 institutional agreements	4 agreements signed by multistakeholder institutions as result of governance schemes under implementation	7 agreements signed by multistakeholder institutions as result of governance schemes under implementation	Climate resilience not considered in institutional agreements (between government, civil society, private sector, local organizations, academy, research institutes) Some governance schemes already exist that require

						improvement or strengthening, such as the multistakeholder platform around water stewardship in Magdalena There is a willingness and interest on the part of local communities to participate and strengthen governance schemes. There is broad participation in the training spaces. Local representatives are part of these training spaces and carry out effective implementations of the acquired knowledge. 7 agreements for 7 corridors: Cienaga - Sierra Nevada; Sierra Nevada - Besotes - Perija; Nevados - Guacas -Rosario; Beautiful - Genova; Macarena - Chiribiquete; Chingaza - San Juanito - Calvario, Chingaza - Fomeque - Choachi.
	# of community planning instruments are improved including climate change strategies	Review of territorial planning intruments Interviews of community representatives	1 Indigenous community, 1 farm community (San Jose del Guaviare), 1 afro-Colombia community and 2 communal action council have weak territorial plans, but do not include climate change	5 community territorial plans incorporate climate change strategies	10 community territorial plans incorporate climate change strategies	Governance schemes are efficient and communities are interested in including climate change management and adaptation measures in their management plans for their territory. The prioritized communities are those that are present in

			variables and responses.			the prioritized geographic areas.
Output 1.3 Increased investment of revenues from royalties in targeted landscapes for improved and sustainable climate-informed land and water use	# of approved projects in the environment and sustainable development sector in HeCo municipalities	MOUs to design projects Bankable projects documents under design around protected areas. Economic valuation and their contribution to key sectors: agriculture, energy, domestic and industry.	0	1 approved project in the environmental and sustainable development sector within HeCo municipalities	5 approved projects in the environmental and sustainable development sector within HeCo municipalities	According to the budget of the General System of Royalties for the 2021-2022 biennium, the allocation of income for the environmental sector is: 154 billion Colombian pesos. The participation of each of the budget appropriations of the prioritized departments was calculated and from there an assumption was established for the environmental allocation. With these predicted values, the same assumptions of income variation are assumed for that item and the environmental allocation by department is calculated. However, since there is no budget allocation by department or municipality, the following assumptions are made: 2. Projection of number of projects: Within the scope of the GCF project, the departments that present approved projects for the environment and sustainable development sector with a start date of 2019 or 2020 are reviewed. to. Given that 8 of 34 projects are for two different municipalities, they are removed from the sample as
	% increase in investment of revenues from royalties allocated towards environmental and sustainable development projects in targeted landscapes by Year 10		0	2% increased investment of revenues from royalties allocated towards environmental and sustainable development projects in targeted landscapes	7% increased investment of revenues from royalties allocated towards environmental and sustainable development projects in targeted landscapes	

						they are duplicated and an average value per project of 4,702,746 is established. 907, 20 out of a total of 141,082,407,216. b. A quantity / project relationship is made from the average calculated value per project. And from the projected increase for the medium and long term, the number of projects is calculated. 3. Midterm and long-term projections: Based on the calculation of the income from royalties mentioned above, an assumption is made where 5% of the accumulated income until 2026 (3 biennia in total) are invested in projects in the environment and sustainable development sector in the prioritized mosaics of HeCo for a total of approximately $6 million. Likewise, based on the projections made, a scenario is established where 12% of the environmental allocation is directed towards projects in the prioritized mosaics, amounting to a total value of approximately $28 million.
Output 2.1. Participatory monitoring systems established by IDEAM and national and regional environmental authorities	# of participatory initiatives incorporating data into relevant M&E frameworks and making use of it for territorial	Capacity building strategy Reports on training sessions	7 Monitoring programs in National Protected Areas. Climate data is included partially	12 participatory monitoring initiatives (7 National Parks and 5 regional	18 participatory monitoring initiatives (7 National Parks, 5 regional	Capacity building are used by community representatives and public officials to acquire knowledge to monitor

	planning, implementation and adaptive management.	Technical report generated by the project monitoring unit in conjunction with focus groups following field visits to assess monitoring initiatives		environmental authorities count with strong participatory monitoring programs)	environmental authorities and 6 river basin early warning systems count with strong participatory monitoring programs)	climate variables and their impacts. The monitoring instruments are constantly maintained for their good performance and use of the information generated for decision-making. Well-defined roles for the management, operation and dissemination of the information generated. There is an articulation and implementation of the monitoring information system of the national system of protected areas.
Output 2.2. Improved application and use of climate information in territorial planning and local decision-making to reduce carbon emissions and strenghten adaptive capacity	# of institutions/organizations tracking mitigations and adaptation impacts (benefits) with data collected by territorial teams	Review of climate change newsletters by mosaic Interviews with institutional/organizational representatives	6 (National parks, Ideam, Sinchi, Invemar, IAVH, UNPGD)	12 Institutions (6 national, 6 regional and local)	18 Institutions (6 national, 5 regional, 7 local)	Effective participation by government institutions in charge of monitoring at the national and regional levels. 6 at national level: National parks, Ideam, Sinchi, Invemar, IAVH, UNPGD 5 Regional: Sirap Caribbean, Eje Cafetero, Macizo, Orinoquia, Amazonia 7 local: Cormacarena, Corpocaldas, Corpocesar, Corpamag, Corpoguavio, CVC, CDA Official platforms for the dissemination of information

						are in operation and functional.
Output 3.1 Management of protected areas improved to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits	Measure of the effectiveness index of protected areas in the prioritized variables * The prioritized variables of the tool "Effectiveness of Protected Areas Management" -EMPAP- depending on the impact of the project are: A1. Protected area health A2. Adaptation to a changing climate A3. Cultural values associated with conservation objectives A4. Benefits associated with nature's contributions B1. Opportunities in the territory for management B3. Socio-environmental conflicts B4. Pressures and threats C1. Coherence in the design of the protected area C3. Coherence and implementation of the management plan C4. Articulation with areas of SINAP and/or other areas of importance for conservation	Applications of the analysis of management effectiveness of public areas	There is no baseline for 2020-2021, the measurement is currently being carried out, which will be taken in October for all prioritized public areas. The public protected areas are: PNN Sierra Nevada de Santa Marta, SFF Ciénaga Grande de Santa Marta, PNR Los Besotes, PNN Las Hermosas, PNN Los Nevados, RFPN Río Amaime, RFPN Ríos Zabaletas and Cerrito, RFPN Ríos Blanco y Negro, DCS Guacas Rosario, RFPR La Marina, RFPR Torre Cuatro, RFPR Planalto, RFPR La Albania y la Esmeralda, RFPR Río Blanco and Quebrada Olivares, RFPR Los Bosques de la Chec, PNR Del Nima, DRMI Páramos Las	60% of the variables prioritized for the effectiveness analysis achieve a level 3 (or remain at the same or increase) in 31 public protected areas	100% of the variables prioritized for the effectiveness analysis achieve a level 3 (or remain at the same level or increase) in 31 public protected areas	Disposition of the environmental authorities in charge of the management and management of Protected Areas for the implementation of measures and actions that improve management effectiveness. Disposition of the communities for the establishment of conservation and restoration agreements. Environmental authorities internalize and implement the policy of the national system of protected areas (SINAP)

	C6. Zoning compliance C7. Articulation of area management with land use plans C8. Knowledge management and use C9. Implementation of management lines C10. Evaluation, monitoring and feedback to management planning D1. Legitimacy of the instances for participation and coordination D3. Qualification of strategic actors D4. Conflict management D6. Inclusion of intergenerational / gender elements for PA management E1. Financial sustainability E2. Human talent E3. Equipment and infrastructure F1. Implementation of value chains F2. Good practices F4. Articulation with the productive sector in the management of the PA		Domínguez, Pan de Azúcar and Valle Bonito, PNN Chingaza, PNN Sierra de la Macarena, RFPN Serranía La Lindosa-Angosturas II, RFPN Paramo El Atravesado, RFPN Rio Rucio, RFPR Quebrada Honda, RFPR Sabinas, RFPR Hoya Hernando, RFPR La Siberia, RFPR Pozo Azul, RFPR La Vitilia la Palma , RFPR Jerico, Libano and Sebastopol, PNN Serranía de Chiribiquete, RFPR Capricho and Mirolindo			
	a) # Hectares under restoration and rehabilitation with focus in mitigation into protected areas	Conservation/restoration agreements document reviews GIS data mapping	a) Zero (0) b) Zero (0)	a) 3,453 ha under restoration/rehabilitation in protected areas	a) 7,848 ha under restoration/rehabilitation in protected areas	Source: National restoration plan. Vulnerable areas defined from information with high and very high susceptibility

	b) # Hectares under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas in protected areas			b) 2,905 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas in protected areas	b) 6,602 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas in protected areas (a) + (b) 14,450 ha in protected areas	to landslides and floods (IDEAM) Disposition of the communities for the establishment of conservation and restoration agreements. Public order conditions allow the realization and implementation of restoration / rehabilitation agreements The selection of areas for restoration / rehabilitation are the most cost-effective, thus generating greater impacts in terms of nature-based solutions. Ecological connectivity is based on maintaining or reducing the distance between natural units / habitats
	c) # Households implementing climate adaptation and resilience practices in protected areas	Conservation/ restoration agreements documents Community surveys Field visits Restoration progress monitoring report	c) Zero (0)	c) 404 Households	c) 918 households	Households defined from the areas of restoration/rehabilitation according with the capacity of each household to sign restoration agreements, according with the follow rule: Caribbean: 5 ha by households Andes: 2 ha by households Amazonia: 10 ha by households

Output 3.2 Management practices improved in buffer zones and connectivity corridors to reduce deforestation and maintain or enhance ecosystem integrity and functionality for climate benefits	a) # Hectares with improved ecological integrity for connectivity b) # Hectares under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas in protected areas c) # hectares under forest management using sustainable standards and legal wood trade.	Connectivity Analysis through GIS data; Technical document, including - Protconn index Restoration/rehabilitation progress monitoring report	a) Zero (0) b) Zero (0) c) Zero (0)	a) 2,209 ha under restoration/rehabilitation b) 433 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas c) 12,000 ha are under forest management planning	a) 5,020 ha under restoration/rehabilitation b) 984 ha under restoration/rehabilitation for Ecosystem Based Adaptation and reduce Risk in vulnerable areas (a) + (b) 6,004 outside PAs c) 12,000 ha are under implementation of the forest management plan	Source: National restoration plan. Vulnerable areas defined from information with high and very high susceptibility to landslides and floods (IDEAM) Disposition of the communities for the establishment of conservation and restoration agreements. Public order conditions allow the realization and implementation of restoration / rehabilitation agreements The selection of areas for restoration / rehabilitation are the most cost-effective, thus generating greater impacts in terms of nature-based solutions. Ecological connectivity is based on maintaining or reducing the distance between natural units / habitats
	d) # Households implementing climate adaptation and resilience practices	Conservation/restoration agreements documents Community surveys Field visits	d) Zero (0)	d) 350 Households	d) 788 Households	Households defined from the areas of restoration/rehabilitation according with the capacity of each household to sign restoration agreements, according with the follow rule:

		Restoration progress monitoring report				Caribbean: 5 ha by households Andes: 2 ha by households Amazonia: 10 ha by households
Project/programme co-benefit indicators						
Co-benefit 1: Protected water provisioning and regulating services	Maintained volume of water supplied to downstream users as a result of sustainable land management	Hydrological modeling of catchments with land uses classified to ascertain the additionality of water supply resulting from sustainable forms of land management	230 million m^3/ha of water per annum is generated for every hectare of protected area	230 million m^3 of water per annum is maintained per ha of protected area under the project	230 million m^3 of water per annum is maintained per ha of protected area under the project, and generated via additional protected areas gazette and land restored	A reduction in water supply resulting from climate change may reduce the volume of water generated for every hectare of protected area. As this would have occurred in either the with-project and without-project scenarios, it is an external factor that does not reflect the performance of the project. Baseline and targets were estimated using data and results from Bonilla, 2013[161], who used hydrological modeling of catchments.
Co-benefit 2: Biodiversity strengthened	# ha of newly gazetted protected area representing increased suitable habitat for fauna and flora # ha of previously degraded land rehabilitated/restored representing increased suitable habitat for fauna and flora	Documentation of protected area gazettement Connectivity Analysis through GIS data; Technical document, including - Protconn index Restoration/rehabilitation progress monitoring report	0 ha	652,609 ha of newly gazetted protected area 20,454 ha of previously degraded land rehabilitated/restored	652,609 ha of newly gazetted protected area 20,454 ha of previously degraded land rehabilitated/restored	Assuming that biodiversity will be strengthened by providing additional suitable habitat and increasing landscape connectivity for vulnerable species such as Puma, Jaguar, Andean Bear and Mountain Tapir amongst other species

[161]Bonilla, M. 2013. Importancia económica de la provisión y regulación hídrica de los Parques Nacionales Naturales de Colombia para los sectores productivos del país. Parques Nacionales Naturales de Colombia

						Source: Ecosystem map (Ideam 2018) using the field Ecosystem Synthesis. Calculation using SIG intersect analysis with the implementation shapefile. Areas are calculated using Magna Sirgas Bogota projection. During the first years of implementation, the declaration route is completed, it complies with the technical parameters and consults with the communities. After completing the route, the PA receives approval from the government for its declaration. There is provision by the environmental authorities, regional Autonomous Corporations and National Parks to measure and implement actions to improve management effectiveness. Willingness, interest on the part of local communities to have conservation, restoration and rehabilitation agreements.

E.6. Project/programme activities and deliverables

All project activities should be listed here with a description and sub-activities. Significant deliverables should be reflected in annex 5 implementation timetable. Add rows as needed.

Please number the activities as shown below to indicate association of activities to the related outputs provided above in section E.5. Similarly, please number sub-activities as shown below to associate to the related activity.

Activities	Description	Sub-activities	Deliverables
1.1.1 Strengthen the capacity of the Regional Systems of Protected Areas (SIRAPs) and a Departmental a System of Protected Areas (SIDAP) to include a climate change focus within their management	The National System of Protected Areas-SINAP- has established instances of participation and dialogue with the different actors in each region, the SIRAPs / SIDAPs, which are scenarios for the coordination of different social and institutional actors to implement guidelines and priorities at the regional and local level. These bodies are currently mandated to incorporate climate change responsive management of protected areas into their priorities but lack the capacity to comply with this mandate. (Upon designation, San Lucas would join the SIRAP Caribbean.)	1.1.1.a Strengthen 4 SIRAPs and 1 SIDAP by supporting meetings at least twice a year and support the technical secretariats of these bodies to strengthen their climate agendas and priorities, mainly those associated to solve the climate problem identified in each landscape 1.1.1.b Support the incorporation of actors and strengthening of the participation scheme of the SIRAPs / SIDAP to increase the adaptive management of the region with a climate-responsive approach 1.1.1.c Support the definition of conservation priorities at the regional level with a climate focus (construction / updating of portfolios) (including benefits of nature, species and cultural values related with climate information) to establish new protected areas or manage existing ones, and land use plans for each region in the face of changes due to climate change 1.1.1.d Improve the participation and qualification of at least 60 leaders of indigenous peoples, local communities and civil society (disaggregated by sex) in the SIRAPs / SIDAP of four mosaics for the generation of agreements associated with water management and forest management. At least 18 women will be part of the activity, especially those from communities, i.e. indigenous, Afro-colombian and rural population from 5 landscapes.	1.1.1.a.i An annual report for each of the SIRAPS / SIDAP. 1.1.1.a.ii By year 5, 4 SIRAPS and 1 SIDAP have included climate considerations in their action plans and are systematically and effectively implementing them 1.1.1.b.i In year 1, a baseline characterization of actors will be generated and an action plan will be designed to improve the participation schemes of the SIRAP / SIDAP. 1.1.1.b.ii From year 2 the action plan will be implemented for a period of 7 years 1.1.1.c In year 2 and year 6, workshops will be carried out to update and define regional conservation priorities with a climate focus. 1.1.1.d.i In year 1, a baseline of the leaders of indigenous peoples, local communities and civil society will be ascertained to strengthen their participation in the SIRAP / SIDAP. 1.1.1.d.ii By year 8, at least 60 leaders participate actively, permanently and with qualifications in the SIRAPS / SIDAP 1.1.1.e In years 4 and 9, a mapping of connectivity exercise will be completed with climatic variables incorporated by each SIRAP / SIDAP, analyzing the contribution of the project

		1.1.1.e Participatory mapping to enhance connectivity for climate adaptation and mitigation- relates to Activity 3.2.2.- to identify priorities and opportunities for to address specific climate hazards and risks in each corridor for Ecosystem-based Adaptation (EbA).	
1.1.2 Strengthen the capacity of the Climate Nodes within each landscape to assess climate adaptation and mitigation dimensions of landscape management	The Regional Climate Change Nodes (NRCC) are regional bodies to permit the regional level integration of different institutions in the implementation of the National Policy on Climate Change. Governments, municipalities, Large urban centers, Environmental Authorities, Research Institutes, NGOs, National Natural Parks, sectoral unions, communities, and other entities participate in the Regional Climate Change Nodes. Strengthen (4) Regional Climate Change Nodes: Caribbean Landscape: NRCC Caribbean; Andes Landscape: NRCC Eje Cafetero; Andes Landscape: NRCC Centro Oriente Andino; Amazon Landscape: NRCC Amazonas; and (1) Sub Node: Guaviare	1.1.2.a Strengthen 4 regional climate change nodes (NRCC) and 1 sub node by supporting meetings at least twice a year and supporting technical secretariats for the implementation of their action plans on mitigation and adaptation in every landscape 1.1.2.b Improve the participation and qualification of at least 60 representative leaders of organizations of indigenous peoples, local communities and civil society (disaggregated by sex) in the 4 NRCCs / 1 sub node. At least 18 women will be part of the activity, especially those from communities, i.e. indigenous, Afro-colombian and rural population from 5 landscapes. 1.1.2.c Design and implement a training program on the use of climatic and hydrological data for risk prevention, and the improvement of water management to develop the capacities of territorial entities and local communities participating in each of the 4 NRCCs / 1 sub node 1.1.2.d Strengthen the articulation and coordination of the NRCCs and the SIRAP / SIDAP for landscape management decisions with climatic variables for the increase of the climatic resilience of the hydrographic basins of interest 1.1.2.e Strengthen the communication and dissemination strategies of the 4 NRCCs / 1 sub node with regional actors for	1.1.2.a An annual report for each Regional Node that includes the implementation of climatic measures adopted by the members of the node that contribute to the improvement of the integral hydrology and landscape management 1.1.2.b.i In year 1, an assessment of baseline knowledge and participation of the leaders of indigenous peoples, local communities and civil society will be conducted 1.1.2.b.ii By year 2, a training program(s) is developed for IP, local community, and CSO leaders and implemented through year 7 1.1.2.b.iii By year 8, at least 60 leaders have completed the training and are participating actively, permanently and with qualifications in the decisions of the Nodes. 1.1.2.c.i In year 1, an assessment of baseline knowledge and use of climatic and hydrological data, information for risk prevention, and water management will be conducted in each NRCC 1.1.2.c.ii By year 2, a training program(s) is developed for territorial entities and community organizations and implemented through year 6 1.1.2.c.iii By year 7, at least 5 territorial entities and 10 community organizations in the landscapes will have strengthened capacities in the use of climatic, and

		awareness and dissemination of the Node's measures and actions 1.1.2.f Design and implement a training program on Monitoring, Reporting and Verification of Emissions, as well as the Monitoring and Evaluation of Adaptation in the prioritized areas to support the 4 NRCCs / 1 sub node in their training priorities to address climate solutions	hydrological data for risk prevention, and the improvement of water management. 1.1.2.d The NRCCs and SIRAPs meet at least once annually to address the articulation of actions and coordination for climate actions in the landscape 1.1.2.e At least 3 communication tools are operationalized in each landscape per year for 8 years. 1.1.2.f.i In year 1, an assessment of baseline knowledge on MRV and M&E and training needs of the institutions and organizations that participate in the NRCCs will be conducted. 1.1.2.f.ii By year 2, a training program(s) is developed for NRCCs representatives and implemented through year 8
1.1.3 Facilitate incorporation of climate considerations into regional and territorial land use planning to achieve a common vision with climate resilience goals and deforestation targets	In order to articulate the actions derived from the project around green businesses with the territorial and environmental planning instruments in the implementation sites prioritized for this purpose, the incorporation and fulfillment of the aspects stipulated in said instruments will be promoted within the framework of the production systems to be intervened, strengthened and improved. This will be achieved both through the articulation of what is defined in said instruments (zoning, vocation of land use, environmental determinants, inter-institutional bodies (joint commissions), etc.) and through the strengthening of the already established participation bodies	1.1.3.a Integrate climate change considerations and social and environmental determinants into the instruments of territorial zoning (POT, PBOT, EOT), and the instruments of environmental zoning (POMCA, PORH) prioritized in issues of sustainable use of biodiversity, adaptation and mitigation of climate change, sustainable local development, green businesses and productive reconversion in the selected territorial entities of 4 mosaics (Andes Centrales, Caribbean, Transición Orinoquía, Corazón Amazonía) 1.1.3.b Design and implement a training program for community and institutional delegates (environmental authorities, municipalities, governorates) for each landscape on how to incorporate variables and elements in the instruments of territorial zoning and basin management of 30 municipalities with jurisdiction of landscapes, 9 departments, 6 river basins.	1.1.3.a.i. In year one, for each of the corridors, the themes will be established around the technical inputs to be developed according to the type of instrument and the themes that require greater technical support. 1.1.3.a.ii As of year 2, annual reports will be delivered that compile technical inputs to be articulated within the framework of the instruments of environmental management of the territory and the pertinent actions for their articulation will begin for 45 territorial planning instruments. (6 POMCAS, 30 POT, 9 PDOT) 1.1.3.b.i In year 1, the training needs for the beneficiary community and institutional actors will be identified. 1.1.3.b.ii During year 2, the training mechanisms will be defined according to each landscape, as well as the data collection mechanisms that contribute to the consolidation of the climate models.

		to generate climate models in the prioritized basins 1.1.3.c Facilitate 4 annual intersectoral roundtables ((i) cattle ranching, (ii) agriculture, (iii) water services, (iv) forest management) within the framework of the climate change nodes of 4 landscapes, with private actors, unions, associations, community delegates and delegates from territorial institutions and national / presidential agencies (National Land Agency, Office of the Presidential Councilor for Stabilization and Consolidation) of land for the identification of pressures, threats and land use change and climatic vulnerability for the generation of criteria and variables to be adopted in the instruments of land use planning.The Presidential Council for Women, will be invited to these annual meetings as well as the Director of Rural Women from the MADR. 1.1.3.d Prepare suitability maps at scales 1:25,000 at the (i) corridor, (ii) conservation areas, (iii) municipal, (iv) village and (v) property levels for the planning of the territory according to variables and defined climatic criteria 1.1.3.e Design and implement a training program on the implementation of water resource planning instruments for environmental authorities and territorial entities	1.1.3.b.iii From year 3 on, the training processes will be developed (for 20 institutional actors, 80 community actors across 30 municipalities with jurisdiction of landscapes, 9 departments, 6 river basins) and the activities defined by the beneficiary actors, until year 9 of the project. 1.1.3.c Starting in year 2, intersectoral roundtables will be held every two years (4 per mosaic, 16 in total) within the framework of the regional climate change nodes of each of the four landscapes, involving 40 people for each space developed by mosaic. (total 104 for implementation period) 1.1.3.d.i In year 1, the greatest needs in terms of cartographic inputs will be identified together with the institutional and community actors, around the conservation landscapes. 1.1.3.d.ii By year 2, the land use suitability maps will be completed at the (i) corridor, (ii) conservation areas, (iii) municipal, (iv) village and (v) property levels that involve the various forms of occupation and use of the territory (legal figures of the territory). (The generation of 5 cartographic inputs per mosaic is estimated, for a total of 20 cartographic inputs at the end of the project. 1.1.3.e.i In year 1, the technical needs around the comprehensive management of water resources will be identified for both environmental authorities and territorial entities. 1.1.3.e.ii Starting in year 2, technical training programs will be developed for 10 officials per entity (20 per mosaic - 80 in total) aimed at strengthening the integral

			management of water resources and harmonizing the actions developed by both types of institutions.
1.2.1 Promote the adoption and implementation of governance schemes within the targeted geographies with the participation of local communities, public institutions, and sectors with a gender and intergenerational focus to improve dialogue and define targets to reduce deforestation and vulnerability to climate change	The strengthening of governance includes activities that will improve the organizational structures of the communities, their coordination, qualification and participation in the decision-making bodies described in Annex 7 of this proposal through support for internal decision-making spaces. such as assemblies, meetings, workshops, exchange, improvement of organizational structures. The following governance scheme has been specifically identified in each landscape: Andes Support the strengthening of the Governance scheme of the Páramos Los Nevados complex led by PNN in the buffer area; Amazon Landscape strengthening capacities of Asojuntas de Guaviare and El Capricho on issues associated with climate change; Orinoquía Transition Landscape Strengthening of the environmental and territorial governance and planning strategy of the PNN Chingaza and the communities of San Juanito, El Calvario, Fomeque, and Choachi, and the páramos guard program currently promoted by RAP-E at the regional level. Caribbean Landscape: Strengthening governance schemes of the indigenous peoples of the Sierra Nevada de Santa Marta (Arhuaco, Kogui, Kankuamo and Wiwa peoples),	1.2.1.a Define a roadmap for each (10) community organizations from each landscape to develop a specific organizational development plan to enhance social and gender inclusion, enhance participation skills and operations systems to implement NbS measures in their territories 1.2.1.b Strengthen at least 7 environmental management and planning tools for indigenous, Afro-descendant and peasant communities with an inclusive and climate approach 1.2.1.c. Strengthen at least 1 space for inter-ethnic dialogue to resolve conflicts in the use and management of forests and water management 1.2.1.d. Generate a baseline and an action plan of actors in year one who interact and make decisions in land use planning, water resource management, forest management in each of the prioritized landscapes and basins. 1.2.1.e Strengthen or create multi-stakeholder roundtables for private sector, civil society, institutions in each mosaic so that agreements are generated for climate-smart solutions associated with the management of water resources and forest management in the prioritized areas and implementation of good practices, reconversion and productive alternatives in each landscape.Gender analysis will be raised as a relevant input for such roundtables, regarding gender responsive forest management and water provision. These scenarios will also help to collect	1.2.1 a.i In year 1, an assessment of baseline knowledge and participation of key community organizations (indigenous, Afro, peasant) will be completed in each of the landscapes 1.2.1.a.ii By year 2, Develop a participatory action plan for their organizational strengthening. 1.2.1.a.iii By year 8, 10 communities have strengthened their organizational processes for the implementation of climate measures in their territories. 1.2.1 b.i By year 5, 3 community organizations have incorporated climate measures in their management and land use plans (life plans, ethno-development plans) and are implementing them. 1.2.1.b.ii By year 8, 7 additional community organizations have incorporated climate measures in their management and land use plans (life plans, ethno-development plans) and are implementing them. 1.2.1.c.i In year 1, potential inter-ethnic and inter-stakeholder conflicts are identified over land use that have repercussions on water resource management and forest management. 1.2.1.c.ii In year 3, an instance of dialogue will be consolidated for the coordination of actions that minimize conflicts and allow for joint solutions in the landscape. At least 1 inter-ethnic space will be consolidated, each dispute resolution which will meet at least 2 times a year 1.2.1.d In year 1, a baseline and an action plan of key actors (private sector, civil

		different forms of knowledge to be integrated on gender responsive climate smart solutions 1.2.1.f Create or strengthen at least 5 committees in 5 targeted geographies with the participation of delegates from the CARS, territorial entities, local communities and civil society for the monitoring and follow-up of conservation agreements and strengthening local governance of the conservation agreements and the strengthening of local governance 1.2.1.g Facilitate the adoption of right-to-use contracts between National Land Agency, Office of the Presidential Councilor for Stabilization and Consolidation and farmers in unprocured vacant lots of Caribbean, Amazon, and Orinoco Transition mosaics	society, institution) will be generated that interact and make decisions in land use planning, water resource management, forest management in each of the prioritized landscapes and watersheds. 1.2.1.e Starting in year 2, 9 multi-stakeholder roundtables (private sector, civil society, institutions) will be strengthened or created over 7 years in each landscape to generate agreements for climate-smart solutions associated with the management of water resources and forest management in prioritized areas and implementation of good practices, reconversion and productive alternatives in each landscape 1.2.1.e In year 1, a baseline of actors will be generated that interact in each landscape in productive alternatives. Starting in year 2, 4 multi-stakeholder roundtables associated with the implementation of good practices, productive alternatives in each landscape will be created and strengthened. 1.2.1.f In year 4, at least 5 committees will be created or strengthened in 4 mosaics with the participation of delegates from CARS, territorial entities, local communities and civil society for the monitoring and follow-up of conservation agreements and the strengthening of local governance and meeting 1.2.1.g. By year 600 of right-to-use contract signed between National Land Agency, Office of the Presidential Councilor for Stabilization and Consolidation and peasant communities
1.2.2 Strengthen the capacity of local communities and their understanding of	Within two Caribbean and Amazon landscapes, promote and recover traditional knowledge and practices that	1.2.2 a In the first year, a baseline of groups of women and young people existing in each landscape oriented to	1.2.2 a In the first year, a baseline of groups of women and young people existing in each landscape oriented to

climate change, incorporating indigenous knowledge and gender responsiveness	contribute to climate resilience and solutions to the climate problem identified with the indigenous organizations of the Sierra Nevada de Santa Marta, the Community Councils of Candona, Arcila and Tunez; the Community Action Boards of San Jose del Guaviare, the return in the department of Guaviare and the DMI Ariari-Guayabero communities. This activity will also promote the strengthening, qualification and participation of groups of women, youth and educational institutions in four landscapes for making decisions associated with water management and forest management.	environmental issues and of public institutions that have this issue involved in their actions will be built. 1.2.2.b In year 2, multi-stakeholder instances will convene and strengthen at least 2 groups of young people and women in the prioritized landscapes so that they actively participate in landscape decisions. In year 5, at least 3 (total) groups of women and young people and by year 7, at least 6 (total) groups of women and youth strengthened at organizational and thematic level.. 1.2.2.c.i By year 1, a training program on organizational strengthening and water management and forest management is developed for 400 women and youth leaders (180 women, 66 young women) and implemented through Year 10 in four landscapes 1.2.2.c.ii By year 10, at least 60 women leaders and 80 young people belonging to organized groups will be strengthened in four landscapes for making decisions associated with water management and forest management. 1.2.2.d Strategy designed and implemented starting in year 2 to make visible the groups of young people and women in each landscape is implemented to the gender and culturally responsive communication strategy 1.2.2 e.i By year 2, a training program is developed on gender responsive and socially inclusive climate actions for departmental and municipal institutions and implemented through year 5 1.2.2.e.ii In year 6, at least three (3) departmental and municipal institutions in charge of gender have linked the groups	environmental issues and of public institutions that have this issue involved in their actions will be built. 1.2.2.b In year 2, multi-stakeholder instances will convene and strengthen at least 2 groups of young people and women in the prioritized landscapes so that they actively participate in landscape decisions. In year 5, at least 3 (total) groups of women and young people and by year 7, at least 6 (total) groups of women and youth strengthened. 1.2.2.c.i By year 1, a training program on organizational strengthening and water management and forest management is developed for women and 400 youth leaders and implemented through Year 10 1.2.2.c.ii By year 10, at least 60 women leaders and 80 young people belonging to organized groups will be strengthened for making decisions associated with water management and forest management. in four mosaics landscapes 1.2.2.d Strategy designed and implemented starting in year 2 to make visible the groups of young people and women in each landscape is implemented to the communication strategy 1.2.2 e.i By year 2, a training program is developed on gender responsive and socially inclusive climate actions for departmental and municipal institutions and implemented through year 5 1.2.2.e.ii In year 6, at least three (3) departmental and municipal institutions in charge of gender have linked the groups of women and youth identified in each landscape to their landscape management.

		of women and youth identified in each landscape to their landscape management. 1.2.2.f 4 traditional indigenous authorities of the SNSM and at least 3 Afro and peasant community organizations strengthen their own traditional knowledge systems associated with land management through support for the creation of spaces for the transmission of traditional knowledge. 1.2.2.g 4 annual spaces for the exchange of knowledge and know-how, between the different peasant, Afro-descendant and local communities and institutions, in relation to the themes associated with the integral management of water resources, forest ecosystems and their relationship with connectivity beginning in year 2 for 6 years. 1.2.2.h. Design and implement a training module (theoretical-practical) to strengthen the capacities of CARs, National Parks and community organizations to address land conflicts associated with water management and forest management	1.2.2.f 4 traditional indigenous authorities of the SNSM and at least 3 Afro and peasant community organizations strengthen their own traditional knowledge systems associated with land management through support for the creation of spaces for the transmission of traditional knowledge. 1.2.2.g 4 annual spaces for the exchange of knowledge and know-how, between the different peasant, Afro-descendant and local communities and institutions, in relation to the themes associated with the integral management of water resources, forest ecosystems and their relationship with connectivity beginning in year 2 for 6 years. 1.2.2.h.i In year three, a module (theoretical-practical) will be designed to strengthen the capacities to address land conflicts associated with water management and forest management 1.2.2.h.ii By year 10, representatives from 5 CARs, 6 National Parks, and at least 10 community organizations will have completed the training module
1.3.1 Improve access and revenue generation of royalties (regalias) to climate responsive planning and development within the project landscapes	The management of royalties needs a broad institutional framework at central, regional and local levels and requires territorial entities to interact with each other, and have strong capacity in the design, execution and fulfillment of large-scale projects. The three basic proposed principles are: to generate clear guidelines, to strengthen capacities and to align actors under common visions in the territories.	1.3.1.a. Work with the Ministry of Environment to include of climate change priorities in the National Strategy for Strategic Environmental Areas emphasizing the importance of climate-informed management of targeted landscapes 1.3.1.b Build capacity of municipalities, departments, and regional environmental authorities to understand and avail of their legal rights to access royalty revenues for effective actions and provide technical assistance to develop and present project	1.3.1.a Document of the National Strategy for Strategic Environmental Areas with climate change considerations included 1.3.1.b.i By year 5, 50% of the territorial entities or IPLC have been trained in structuring investment projects to be financed by royalties. 1.3.1.b.ii 6 proposals submitted by municipal authorities, CARs, departments to apply for royalty payments by year 10 1.3.1.c 2 proposals submitted jointly by IPLC authorities with municipal or regional

		proposals linked to climate-informed landscapes management to be funded by the SGR. 1.3.1.c. Develop partnering arrangements between IPLC authorities, environmental authorities and eligible municipal and regional authorities to submit joint funding proposals for improved climate-informed management of targeted landscapes.	environmental authorities to apply for royalty payments by year 10
2.1.1 Expand the coverage of hydro-meteorological data collection for improved management of targeted landscapes (including protected areas) and affected vulnerable populations	A solidly designed network of data collection stations will be established to expand the collection of locally relevant climate data that are at the same time complementary to national data networks. Stations' locations and characteristics will be tailored to the needs of local initiatives and context.	2.1.1.a Install weather stations in prioritized sites 2.1.1.b Install water gauges in prioritized sites 2.1.1.c. Develop standard processes for local monitoring teams about the capture and analysis of bioclimatic information and adaptation measures for implementation places. 2.1.1.d. Prepare biannual output reports by territorial entities and disaster response entities of data collected as part of the alert intervention exercises 2.1.1.e. Establish 6 environmental early warning systems in basins Chinchiná, Amaime/Cerritos, Fundación Aracataca, Rio Seco, Upper Guatiquia, Upper Guayuriba 2.1.1.f. Train 6 local community teams and 30 staff of public institutions (Corpomag, Corpocesar, Corpocaldas, CVC, Corpoguavio, PNN) in the measurement of bioclimatic variables and participatory monitoring 2.1.1.g. Independent evaluation of training delivery in years 3 and 7	2.1.1.a 13 weather stations installed (2 SNSM, 1 Cienaga, 1 Fundación river, 1 Perija RP, 1 Seco river, 1 PNN Las Hermosas, 1 PNN Los nevados, 1 Chinhina river, 2 PNN Macarena, 2 Chiribiquete) by Year 3 2.1.1.b 6 water gauges installed in relation with early warning monitoring initiatives: Chinchiná, Amaime, upper Guatiquia, upper Guayuriba, Fundación, Seco by Year 3 2.1.1.c. Standards process for climate early warning protocols, carbon parcels, and PA's threats monitoring developed by Year 3 2.1.1.d. Biannual output reports generated by 18 monitoring initiatives bianually starting in year 3 2.1.1.e. 6 early warning systems established through MOUs between the basin council, the environmental authority and the water supply companies related to the basin for Fundación Aracataca, Rio Seco, Chinchiná, Amaime/Cerritos, Upper Guatiquia and Guayuriba by Year 7 2.1.1.f. 6 local teams of 150 local community members and 90 of staff from 18 institutions trained annually by Year 3 2.1.1.g. Independent evaluation report submitted to the PMU in years 3 and 7

2.1.2 Collect climate-relevant parameters from the interaction between remote sensing data and field work in high elevation wetlands (paramos) and forests and integrate it into local and national monitoring and evaluation systems	Local teams need to be involved in data collection and systems management and maintenance. Institutional and data frameworks need be clearly established as well as capacities need be in place. Collection of data will be done capitalizing on existing data collection and datasets produced both at national and local levels and be complementary to those, regarding assessment of climate impacts and their mitigation and adaptation. Such complementarities need to be geographic, thematic and parametric. Replicate and amplify the NORAD NICFI Amazon pilot (PFGTI) in the Caribbean, Orinoco Transition, and Andes landscapes.	2.1.2.a. Establish partnerships with existing local monitoring initiatives to form community-based monitoring teams (including protected areas) 2.1.2.b. Establish new initiatives with local organizations to form community-based monitoring teams (including protected areas) 2.1.2.c. Train local teams in climate and biodiversity data collection and interpretation 2.1.2.d Train local teams in data collection station management and maintenance 2.1.2.e. Define organizational structures for initiatives and framework for participation in national monitoring processes 2.1.2.f. Define data standards and flow protocols 2.1.2.g. Design and implement local carbon plot network. (Include participatory team coordination) 2.1.2.h. Environmental authorities, municipalities, and research institutions use information collected towards MRV process (reference level and reports at national level) 2.1.2.i. Produce output reports (brochures) for environmental authorities, municipalities, and research institutions with summaries of interpretation of climate data, as well as adaptation and mitigation action plans 2.1.2.j. Independent evaluation of training delivery in years 5 and 9 2.1.2.k Generate agroclimatic calendars by productive activities in implementation sites to identify and take autonomous and planned adaptation measures. (Aligned with integration under 1.1.3a)	2.1.2.a,b,c 12 teams of 120 local people and 90 staff from institutions established within each landscape (7 National Parks, 5 regional environmental authorities) and trained in climate and biodiversity data collection and interpretation annually until Year 8 2.1.2.a,b,d 12 teams of 120 local people and 90 staff from institutions established within each landscape (7 National Parks, 5 regional environmental authorities) and trained annually in data collection station management and maintenance until year 8 2.1.2.e,f Organization structures defined by Year 3 and data standards and flow protocols defined by Year 3 2.1.2.g 75 local carbon parcels implemented within all landscapes by Year 3 2.1.2.h,i Output reports produced and sent biannually by monitoring team for environmental authorities, municipalities, and research institutions 2.1.2.j. Independent evaluation report submitted to the PMU in years 3 and 7 2.1.2.k Agroclimatic calendars generated in Year 2 for 7 corridors including indigenous, Afro-Colombian and local farmers

2.2.1 Incorporate landscape- and local-level data into national systems for climate monitoring and evaluation (e.g., SMByC, SIM-SINAP, SIIVRA)	Establish formal communication channels between IDEAM, National Park System, UNGPD, CARs and strengthen the national forest and carbon monitoring system (SMByC)	2.2.1.a Strengthen the national forest and carbon monitoring system (SMByC) in the development of deforestation alerts at the local and regional level, degradation monitoring and participatory restoration 2.2.1.b. Formal communication channels established to exchange information between institutions (IDEAM, National Park System, UNGPD, CAR) 2.2.1.c Independent evaluation of interinstitutional information exchange	2.2.1.a SMByC strengthened by the interaction with local and regional team to produce annual and quarterly deforestation technical reports 2.2.1.b MOUs signed between IDEAM, National Park System, UNGPD, CAR by Year 2 2.2.1.c Independent evaluation report submitted to the PMU in years 3 and 7
2.2.2 Introduce improved systems for dissemination of usable climate information to climate vulnerable populations for improved decision-making (e.g., on precipitation or temperature patterns)	This activity will improve the existing platforms for the dissemination of information for monitoring protected areas, including the monitoring of key ecosystems for carbon storage such as forests, paramos and mangroves.	2.2.2.a Consultation and information dissemination platforms in operation, integrating reports derived from monitoring and early warning systems. 2.2.2.b Design and develop didactic materials for training and education in climate issues, good practices 2.2.2.c Generate and exchange stories that show the importance and urgency of taking actions that reduce climate vulnerability 2.2.2.d Design and implement a knowledge management strategy and share similar lessons from the use of information generated through monitoring	2.2.2.a. The (i) monitoring information system of the national protected areas system (SIM-SINAP), (ii) Carbon and forests monitoring system (SMByC), (iii) Integrating Information System on Vulnerability, Risk and Adaptation Consultation and information dissemination platforms (SIIVRA) in operation, integrating reports derived from monitoring and early warning systems 2.2.2.b y c Knowledge management strategy developed by year 2 to be implemented through year 10 2.2.2.d Biannual exchange programs during years 5-8 between 6 landscapes for 25 people each among community groups and institutions to enhance a mutual learning process and conforming networks of climate-informed leaders for a total of 150 participants
3.1.1. Complete, in a socially responsible manner, the designation and gazettement of 1 new protected area (San Lucas Mountains) covering 470,856 hectares to reduce deforestation trends and improve forest connectivity	The project is expected to contribute to finalizing the declaration of 470,856 hectares of the San Lucas Mountains as a SINAP protected area, following the route in Colombian legislation (Resolution 1125 of 2015). It is located in the south of the department of Bolívar and the extreme northeast of the department of Antioquia, between the Andes mountain range and	3.1.1.a Review proposed designation of PAs (completion of proposed boundaries and associated resource use rights and access rights) 3.1.1.b Conduct consultations with affected-stakeholders (based on proposal) at community level (FPIC if needed) and government/interagency 3.1.1.c Formal legal gazettement	3.1.1.a Technical document to support the declaration of San Lucas as a protected area, including information on climate, connectivity, biodiversity and benefits of nature, and the arguments for climate variability by June 2023 3.1.1.b.i Report of the participatory process by June 2023

	the Caribbean plains, isolated approximately 100 km from the central mountain range. With its declaration, the following ecosystems that generate valuable contributions to nature for local communities would be protected, among which is the generation of water resources: humid basal bush, humid sub-Andean bush, humid Andean forest, humid basal forest, fragmented forest with grasses and crops, fragmented forest with vegetation, secondary, basal flooded forest, sub-Andean flood forest, humid sub-Andean forest, alluvial lagoon, white water river, transitional transformed, secondary vegetation, basal swampy zone.	3.1.1.d Monitoring and evaluation of designation process; including safeguards monitoring	3.1.1.b.ii Agreements of the social dialogue process with local, institutional and sectoral actors by December 2023 3.1.1.c Resolution with the agreement of the declaration for the gazettement of 1 new protected area covering 470,856 hectares by June 2024 3.1.1.d Safeguards implementation report by December 2025
3.1.2. Expand Sierra Nevada de Santa Marta National Park by an additional 181,753 hectares to reduce deforestation trends, preserve forest connectivity and protect source waters	The expansion of the Sierra Nevada de Santa Marta PNN by approximately 181,753 hectares, is preliminarily supported by being able to incorporate ecosystems not represented in the SINAP corresponding to sub-Andean humid forest and tropical dry forest. There is no definitive proposal of the geographical limits of the expansion, since it is being built with the Arhuaco and Kogui Peoples, based on the joint work embodied in the Specific Agreements signed between these peoples and National Parks, within the framework of the implementation of the route for the declaration of the expansion.	3.1.2.a Review proposed designation of PAs (completion of proposed boundaries and associated resource use rights and access rights) 3.1.2.b Conduct consultations with affected-stakeholders (based on proposal) at community level (FPIC if needed) and government/interagency 3.1.2.c Formal legal gazettement 3.1.2.d Socialization of new plan 3.1.2.e Monitoring and evaluation of designation process; including safeguards monitoring	3.1.2.a Technical document to support the extension of the Sierra Nevada de Santa Marta PNN, including climate information, connectivity, biodiversity and benefits of nature the arguments of climate variability by June 2023 3.1.2.b Report documenting the prior consultation process by June 2023 3.1.2.c Resolution with the extension agreement to incorporate an additional 181,753 hectares to Sierra Nevada de Santa Marta PNN by December 2023 3.1.2.d Communication products informing the expansion by December 2023 3.1.2.e Safeguards implementation report with details on the participatory process by December 2023
3.1.3 Support the design and adoption of climate-responsive management measures for the targeted landscapes	Promote better management, guide the planning to incorporate climate change considerations and allocation of resources and encourage participation of strategic actors. This activity will be carried out in 64 protected areas (32 public and 32	<u>Technical capacities</u> 3.1.3.a Build capacities in protected area administrators, work teams and communities in management planning based on the implementation of the SINAP	<u>Technical capacities</u> 3.1.3.a 250 people from protected area administrators, work teams and communities with strengthened capacities in management planning by Year 7

	private). It includes San Lucas and the regional area del Guaviare (currently in the declaration process) to support the basic conditions for its implementation: The public areas are listed below: PNN Sierra Nevada de Santa Marta, SFF Ciénaga Grande de Santa Marta, PNR Los Besotes, PNN Las Hermosas, PNN Los Nevados, RFPN Río Amaime, RFPN Ríos Zabaletas and Cerrito, RFPN Ríos Blanco y Negro, DCS Guacas Rosario, RFPR La Marina, RFPR Torre Cuatro, RFPR Planalto, RFPR La Albania y la Esmeralda, RFPR Río Blanco and Quebrada Olivares , RFPR Los Bosques de la Chec, PNR Del Nima, DRMI Páramos Las Domínguez, Pan de Azúcar and Valle Bonito, PNN Chingaza, PNN Sierra de la Macarena, RFPN Serranía La Lindosa- Angosturas II, RFPN Param o El Atravesado, RFPN Rio Rucio, RFPR Quebrada Honda, RFPR Sabinas, RFPR Hoya Hernando, RFPR La Siberia, RFPR Pozo Azul, RFPR La Vitilia la Palma, RFPR Jerico, Libano and Sebastopol, PNN Serranía de Chiribiquete, RFPR Capricho and Mirolindo. Restoration/rehabilitation of 14,450 ha (7,848 ha with focus on connectivity/mitigation and 6,602 ha for EbA and reduce risk)	education and training plan created for this purpose. 3.1.3.b Develop and implement a comprehensive control and surveillance training program through participatory design with delegates from environmental authorities and community actors (including indigenous communities) from each mosaic including the 31 public protected areas to reduce deforestation trends and monitor restoration, ecological integrity, and impacts of climate change <u>Management plans</u> 3.1.3.c Update the management plans of 31 public protected areas with a gender and intergenerational approach and explicit consideration of short- and longer-term climate change impacts, including necessary shifts in priorities to build resilience in protected areas and their surrounding conservation landscapes. 3.1.3.d Guide the formulation of management plans in 32 natural reserves of civil society, including adaptation and mitigation measures 3.1.3.e Facilitate the periodic measurement of the effectiveness of protected area management for adaptive management and monitor the impact of the adoption of climate-smart strategies. 3.1.3.f. Guide the formulation of management plans for San Lucas and the Guaviare regional area based on the management planning guide that includes the climate variability approach <u>Control & Vigilance</u> 3.1.3.g Procurement and provision of equipment for the implementation of	3.1.3.b 100 people trained in comprehensive patrolling and surveillance by Year 5 <u>Management plans</u> 3.1.3.c 31 management plans updated in public protected areas, incorporating climate change data and response plans with a gender and intergenerational approach by Year 5 (using the guide for management planning approved by the National Council of Protected Areas - CONAP) 3.1.3.d 32 private protected areas management plans incorporating adaptation and mitigation measures with a gender and intergenerational approach by year 5 (using the guide for management planning approved by the National Council of Protected Areas - CONAP) 3.1.3.e Using the “Protected Areas Management Effectiveness” tool - EMAP (approved by CONAP), 100% of the prioritized variables for the effectiveness analysis achieve a structural level 3 (or remain at the same level or increase) in 31 public protected areas. 100% of the prioritized variables for the effectiveness analysis achieve a functional level 2 (or increase) in San Lucas and the regional area of Guaviare 3.1.3.f Management plans built in a participatory manner for San Lucas and the Guaviare regional area by year 2 (using the guide for management planning approved by the National Council of Protected Areas - CONAP) <u>Control & vigilance</u>

		prevention, surveillance and control actions, including remote satellite monitoring system 3.1.3.h Contract personnel by environmental authorities for the implementation of control and vigilance actions 3.1.3.i Develop control and vigilance/surveillance protocols 3.1.3.j Periodically carry out the control and surveillance tours based on the defined protocols 3.1.3.k Collect and systematize information about the pressures mainly associated with water resources and forests <u>Restoration</u> 3.1.3.l Restoration of 4,726 ha for connectivity/mitigation and 3,810 ha for EbA/reduce risk over 10 years in 8 protected areas 3.1.3.m Implement 1,702 agreements for the development of the restoration in 8 protected areas 3.1.3.n Identify a group of young people, a group of women, community groups, knowledgeable people in each landscape to be trained and facilitators of restoration actions 3.1.3.o Capacity building mainly in women and young people who are part of community networks, by training 2,620 people (840 / 30% women) in 8 protected areas over years 2-7 3.1.3.p Establish 8 nurseries in 8 protected areas 3.1.3.q Periodically carry out maintenance work to ensure the development and survival of reintroduced species	3.1.3.g 32 control and surveillance kits every 3 years 3.1.3.h 286 staff hired by Year 10 3.1.3.i. Prevention, surveillance and control protocols for 31 public protected areas in year 3 3.1.3.j Annual reports on the implementation of prevention, surveillance and control protocols 3.1.3.k Semiannual reports of the pressures and threats identified <u>Restoration</u> 3.1.3.l 8,536 ha under restoration process 3.1.3.m 1,702 restoration agreements implemented in 8 protected areas 3.1.3.n. Document with the participatory process to define groups of women and youth as facilitators of restoration processes 3.1.3.o 2,620 people trained in 8 protected areas by year 5 in restoration processes 3.1.3 p 8 community nurseries established in 8 protected areas in year 4 3.1.3.q Semiannual reports on maintenance processes 3.1.3.r Monitoring and evaluation scheme established to verify the progress of the restoration processes <u>Rehabilitation</u> 3.1.3.s 5,914 ha undergoing rehabilitation in 9 protected areas 3.1.3.t 919 people trained and qualified in rehabilitation processes in 9 protected areas by year 5

		3.1.3.r Develop a participatory follow-up, evaluation and monitoring scheme for the different actions established based on the ecological restoration process and agreed indicators, including safeguard mitigation measures and monitoring <u>Rehabilitation</u> 3.1.3.s Facilitate the participatory rehabilitation of 3,122 ha for connectivity/mitigation and 2,792 ha for EbA/reduce risk over 10 years in 9 protected areas with climate-resilient productive systems from a differential gender and intergenerational approach for the sustainable use and management of forests and watersheds in prioritized intervention sites 3.2.1.t Develop and implement a training-action program with community and institutional leaders, youth groups, women's groups within PAs for the implementation of the climate-resilient rehabilitation strategy within the framework of agreements with communities / producers to be carried out permanently and will be operated by the environmental authorities	
3.2.1 Support rehabilitation 3,254 ha of degraded lands to increase ecological integrity of targeted landscapes and reduce protected areas encroachment	Work with communities to address livelihoods/practices to reduce deforestation and rehabilitation 3,254 ha of degraded lands and 12,000 ha of sustainable forest management Rehabilitation processes will be developed jointly with communities, highlighting the participation of women and youth, in the priority intervention sites, and involving actions to create, strengthen and materialize local capacities.	3.2.1.a Through a participatory stakeholder process, jointly design climate resilient farm management processes and production systems to address prioritized climate risks for each mosaic and improve agricultural and production practices for landscape rehabilitation and connectivity. 3.2.1.b Facilitate the participatory rehabilitation of 3,254 ha (2,518 ha focus on increase connectivity/mitigation and 737 ha for EbA and reduce risk) with climate-resilient productive systems from a	3.2.1a. 4 climate resilient farm management processes and production systems developed (one for each landscape, including the respective implementation sites). During year 2, the participatory design of indicators pertinent to the management of productive systems and resilience will be carried out, involving practices for rehabilitation. There will be the indicators associated with each of the four conservation landscapes

		differential gender and intergenerational approach for the sustainable use and management of forests and watersheds in prioritized intervention sites 3.2.1.c Train 3,176 people (1,551 men, 1,625 women) to apply good production practices that build on-farm resilience to increasing extremes and reduce pressures on surrounding ecosystems, and use of appropriate equipment and technologies for each landscape, in 8 places (Cuenca media y baja río Fundacion, Zona río Seco Guacoche y Guacochito, Cuenca Río Amaime y Cerritos, Cuenca Río Chinchiná, Cuenca Río Guatiquía, Nuecleo 1 Pto Nuevo, Núcleo 2 Picalojo) - annually, from year 2 to 8, to get to total 9 for implementation period. 3.2.1.d Assessment of ecological integrity and independent evaluation of training delivery in each 4 years 3.2.1.e Implementation and monitoring of safeguards implementation measures 3.2.1.f Technical assistance for the management and use of 12,000 ha of forest in the Puerto Nuevo intervention site in Corazón Amazonía (timber and non-timber species)	3.2.1.b Participatory rehabilitation of 3,254 has during year 3, the participatory design of the rehabilitation strategy will be carried out for each of the landscapes; thus counting on four strategies to be implemented from year 4. 3.2.1.c 3,176 people (1,551 men, 1,625 women) trained in good production practices during project implementation. 3.2.1.d. Assessment of ecological integrity and evaluation of training delivery each 4 years per landscape (2 for 4 landscapes - 8 total) 3.2.1.e. Implementation of the safeguards measures and monitoring system developed in each landscape (4 implementation sites / 4 monitoring systems) 3.2.1.f. 242 (113 women and 129 men) of direct beneficiaries from technical assistance on climate resilient productive systems in 12,000 hectares
3.2.2 Support the restoration 2,750 ha of forest ecosystems in targeted landscapes to improve ecosystem integrity and functionality	Active restoration of 2,750 ha of forests through enrichment planning, together with communities within the buffer zones and connectivity corridors, highlighting the participation of women and young people), in the prioritized intervention sites, and involving actions of creation, strengthening and materialization of local capacities, production. This is based on the improvement of the information associated with the degraded areas and its use for making the right decisions that respond to	3.2.2.a Establish 30 nurseries with 30 communities for 2,750 ha of restoration 3.2.2.b Restoration of 2,750 ha over 10 years in 4 mosaics to increase resilience for 2,579 people (1,259 men, 1,320 women), taking into account ancestral practices. 3.2.2.c Develop a participatory follow-up, evaluation and monitoring scheme for the different actions established based on the ecological restoration process and agreed indicators	3.2.2.a 2,750 ha of restoration based on establishment of 30 nurseries in 30 communities. 3.2.2.b. Restoration of 2,750 ha, benefiting 2,579 people (1,259 men, 1,320 women). 3.2.2.c. Development of 30 participatory follow up evaluation and monitoring schemes, based on the ecological restoration process. 3.2.2.d. 2,579 people trained (1,259 men, 1,320 women). as facilitators of

	the current state of the territory by integrating the production systems present there	3.2.2.d 2,579 people trained (1,259 men, 1,320 women) in 8 community groups (Cuenca media y baja río Fundacion, Zona río Seco Guacoche y Guacochito, Cuenca Río Amaime y Cerritos, Cuenca Río Chinchiná, Cuenca Río Guatiquía, Núcleo 1 Pto Nuevo, Núcleo 2 Picalojo) as total in the four mosaics to be facilitators of restoration actions. 3.2.2.e Implementation and monitoring of safeguards implementation measures	restoration actions in 8 landscapes over years 2 - 8. 3.2.2.e. Implementation of the safeguards measures, and monitoring system developed in each landscape (4 implementation sites / 4 monitoring systems)
3.2.3 Augment available information on productive sectors, financial flows and investable biobusinesses that support climate and nature positive outcomes in HECO's mosaics and attract capital from investors	The challenges to private sector investment include mobilizing private sector finance at the scale it is needed and identifying a robust pipeline of investment opportunities. This activity will address these challenges by augmenting available information on the market readiness of investments supporting sustainable management of targeted landscapes such as agroforestry production systems for coffee and cacao, tropical fruits, and ecotourism. It will also identify and map community and SME businesses in priority landscapes that could attract private investors (such as the Amazon Bioeconomy Fund (Amazon), Mirova (Caribbean), and others). It will further assess public/private investment flows in mosaics and seek to identify potentially suitable investors and investment sources for ecosystem-based adaptation/mitigation solutions.	3.2.3.a Conduct sector assessments for forestry, tourism and agriculture to characterize 1) the sector contribution to localized forest/ecosystem service degradation and 2) size and potential of the sustainable segment of each sector 3.2.3.b Conduct a broad scan of community enterprises and SMEs operating in each sector in each mosaic 3.2.3.c Conduct feasibility screens (financial/climate) on community enterprises and SMEs 3.2.3.d Map and assess public/private investment flows into the forestry, tourism and agriculture sectors in each mosaic 3.2.3.e Improve access to capital for a maturing pipeline of community enterprises and SMEs by identifying potentially suitable investors for individual business and/thematic portfolios 3.2.3.f Incorporate information in Leticia Platform database	3.2.3.a Completed sector assessments for three sectors. 3.2.3.b Broad prospect base of potential biobusinesses to sustain adaptation/mitigation outcomes in the priority landscapes 3.2.3.c Deal-sourcing of twelve biobusinesses, including community-led enterprises, included in investment pipeline 3.2.3.d Financial flows in mosaics identified for climate and nature positive business opportunities. 3.2.3.e Suitable investors for adaptation/mitigation solutions identified for individual business investments and thematic portfolios (forest/ecosystem restoration, regenerative food systems, nature tourism) 3.2.3.f Leticia Platform database updated with a target of 50 projects/businesses
3.2.4 Technology and Innovation to Close the Conservation Finance Gap in the Amazon basin - the Herencia Colombia pilot with the Ministry of Environment	This activity builds on the completion of the design, development and launch of a fully functional digital platform aimed at fostering the financing of conservation and sustainable investments within the Herencia Colombia program. The platform will use the most advanced technologies	3.2.4a Implement a brand and growth strategy for the platform that includes identifying, activating and growing a community of users	3.2.4a A measurable number of user profiles created in the platform for all audiences; measurable number of opportunities/projects created in the platform and a measurable number of funders/investors using the platform to

	and algorithms to provide in one place intelligent data and tools to connect governments, investors, donors, philanthropists with carefully identified investment, projects and actors in high priority locations identified by projects such as Herencia Colombia. Colombia's Minister of Environment performs the key convening role for this activity. This platform will be considered as a pilot for its next deployment at the level of the signatory countries of the Leticia Pact.		scope potential projects or business opportunities

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

447. In addition to the AE's obligations set out in the Accreditation Master Agreement dated November 16, 2017 (the AMA), project-specific monitoring and evaluation will consist of the following arrangements:

M&E Plan

448. The project includes monitoring and evaluation systems to track progress towards the planned outcomes over the ten-year term of the project. A Monitoring and Evaluation Plan (the M&E Plan) has been prepared for the project and appears in Annex 11. Fund-level monitoring and evaluation of the project will be based on the Fund-level Indicators identified in Section E.3. above.

449. The AE will require adherence with the M&E Plan and the relevant monitoring and evaluation systems described in this Funding Proposal in its Subsidiary Agreements with the EEs. In their agreements with the procured parties and grantee beneficiaries, Patrimonio and WWF Colombia will in turn each require regular reporting sufficient to enable them to comply with their obligations to the AE, including reporting on project indicators, implementation challenges, and financial status. See Section B.4, Implementing Arrangements, for an illustration of those agreements within the institutional arrangements for the project.

Primary Responsibility for Monitoring & Evaluation

450. The primary responsibility for day-to-day data collection, project monitoring, and implementation of monitoring and evaluation processes will rest with Patrimonio, through the Project Management Unit (the "PMU") managed by and hosted at Patrimonio. PMU staffing will include a dedicated Monitoring and Evaluation Specialist. Patrimonio will be required to deliver reports to the AE on project indicators, implementation challenges, and financial status to allow the AE to monitor and evaluate the project, and to report to the GCF. The PMU will apply standard management tools such as work plans to monitor progress and financial reporting, as well as action plans for gender, stakeholder engagement, and environmental and social safeguards.

451. Patrimonio, through the PMU, will manage the following participatory monitoring and evaluation systems at the project level, which will also serve as quality assurance measures. First, Patrimonio and WWF Colombia will conduct regular field monitoring activities with PNN, regional environmental authorities, IDEAM, and community organizations in each landscape where activities will take place to (a) review progress of the project; (b) review the validity and continuing relevance of implementation approaches and strategies; (c) review the adequacy of personnel and financial and institutional arrangements; and (d) make recommendations for adaptive management.

452. Second, the project-specific monitoring will be integrated with a reporting and monitoring system developed for the government of Colombia's broader HECO program, which will allow the project to take advantage of the HECO program's central, participatory monitoring system. Information provided by HECO participants, including the procured parties, will be submitted to a participatory monitoring and reporting system ("MRV" for its Spanish acronym) team composed of technical leads for each participating institution. The MRV team will submit that information to a central, official IDEAM platform located in Bogota, and will develop a report of the performance of the project based on that information, as a component of the broader HECO program. At the same time HECO will support the strengthening of the National Monitoring System of the Protected Areas System (SIM-SINAP), in the fact that HECO's indicators are related with the coverage of ecosystems protected and strengthened in response to climate variability and change.

453. Finally, Patrimonio, through the PMU, will design specific mechanisms to monitor and report on other areas such as gender inclusion and equity; safeguards plans implementation (including ESMPs and other Safeguard plans developed during project implementation), which includes the GRM and any SEAH-related grievances disaggregated from the rest; livelihoods of the most vulnerable people; climate-responsive development planning, innovation, and scalability; which will feed the mid-term and final evaluation reports and support national monitoring systems.

Periodic Reports:

454. The PMU will submit an Annual Performance Report (APR) to the AE, by January 31 each year of implementation, consolidating information from all co-EEs, subgrants, and subcontracts, including a narrative report on implementation progress based on the logical framework submitted in this Funding Proposal and considerations on the ongoing performance of the project against the GCF's investment framework criteria. This narrative report will include updates on the indicators described in the GCF's Results Management Framework, and a report on safeguards,that includes updates on the GRM, including any SEAH-specific grievances; gender; and co-benefits indicators. The PMU's Project Manager and M&E Specialist will be responsible for preparing the APRs, for controlling quality, and for submitting them to the AE. The PMU will share these APRs with the Project Board, the HECO Steering Committee, and other stakeholders.

455. The PMU will submit semiannual technical reports to the AE, one at the mid-year and one at the end of the calendar year, to allow the AE to make its reports to the GCF.

456. The PMU will submit to the AE quarterly financial reports that consolidate all financial information from the other EEs, to allow the AE to make its financial reports to the GCF. The Financial Manager of the PMU will be responsible for preparing the financial reports, for controlling quality, and for submitting them to the AE.

Monitoring Embedded in the Project Design:

457. In addition to the project-level monitoring and evaluation processes, a substantial number of the project activities are themselves monitoring interventions that are integral to the project's theory of change. Most notably, all the Activities under Outcome 2 ("Participatory monitoring systems generate climate information used for improved decision-making in territorial planning") are devoted to monitoring climate information and ensuring that that information is evaluated and used by decision makers. For example, Activity 2.1.1. will expand the coverage of hydro-meteorological data collection for improved management of targeted landscapes and affected vulnerable populations. Activity 2.1.2. will collect climate-relevant parameters from the interaction between remote sensing data and field work and integrate this information into monitoring and evaluation systems. Activity 2.2.1. will incorporate landscape- and local-level data into national systems for climate monitoring and evaluation. And activity 2.2. will introduce improved systems for dissemination of usable climate information to climate vulnerable populations for improved decision-making, for example on precipitation or temperature patterns.

AE Monitoring and Evaluation:

458. The AE will carry out the following project-level monitoring and evaluation activities:

459. The AE will maintain and comply with an adequate system to monitor the performance of the EEs and contractually cause regular reporting from them in the Subsidiary Agreements in accordance with the AMA.

460. The AE will carry out an inception workshop to: (a) inform project stakeholders of the project strategy and discuss any changes in the overall context that influence project implementation; (b) discuss the roles and responsibilities of the project team, including reporting and communication lines; (c) review the results framework, discuss reporting, monitoring and evaluation roles and responsibilities, and finalize the M&E plan; (d) review financial reporting requirements and procedures [and agree on the arrangements for the annual audit]; (e) agree on templates and the timelines for technical and financial reporting with the PMU and executing partners; (f) plan and schedule Project Board and HECO Steering Committee meetings; and (g) finalize the first year's work plan.

461. The AE will carry out annual supervision missions during which, among other things, it will review the previous Annual Performance Report with stakeholders including the EEs and the NDA. During these missions, the AE will conduct workshops with the EEs, the NDA, and other stakeholders to (a) review whether the project strategies are having the expected results according to the project theory of change; (b) analyze risks and assumptions that hinder project success, to discuss modifications to make the project more efficient and effective; (c) discuss lessons from the past year(s) of project implementation; and (d) evaluate the project's gender responsiveness and application of social and environmental safeguards.

462. The AE will submit a copy of the APR to the NDA by the end of February each year. In addition, Colombia's GCF focal point, the National Planning Department, will have a seat on the Project Board, which will receive the APRs and other reporting.

463. During the project, based on the PMU's reporting to the AE described above, the AE will submit to the GCF Annual Performance Reports, including financial management reports, which will include, among other things, the dates and amounts disbursed for each funded activity and compliance with financial covenants.

464. The AE will also provide to the GCF on an annual basis (a) a self-assessment of compliance with the GCF's Fiduciary Principles and Standards, Environmental and Social Safeguards, and Gender Policy; and (b) a report on its actions carried out or planned to be carried out to strengthen the capacities of, or otherwise support, potential subnational, national and regional entities.

465. The AE will arrange and contract for independent interim and final evaluations that will contain the information described in Section 15.02(b) of the AMA and will apply the relevant GCF and AE policies identified in the AMA. The AE will, in collaboration with the PMU, prepare a formal management response to the findings of the independent evaluations, and will provide the evaluation reports and the management response to the GCF.

466. The interim evaluation will take place at the mid-point of project implementation. This mid-term evaluation will evaluate progress towards the achievement of outcomes and will suggest corrective actions if needed. The findings of the interim evaluation and responses in the management response will be incorporated as recommendations for enhanced implementation during the second half of the project.

467. The final evaluation will be submitted six months after the project's completion date. It will aim at identifying project outcomes, their sustainability, and future actions needed to assure continuity of these outcomes.

468. Within three months of the project's completion date, the PMU will prepare the Project Completion Report for the AE's review and revision, and the AE will submit the final report to the GCF. This comprehensive report will also be made available to the public. It will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met, and areas where results may not have been achieved. It will also provide recommendations for any further steps that may need to be taken to ensure sustainability and replication of the project's results.

RISK ASSESSMENT AND MANAGEMENT

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

Please describe financial, technical, operational, macroeconomic/political, money laundering/terrorist financing (ML/TF), sanctions, prohibited practices, and other risks that might prevent the project/programme objectives from being achieved. Also describe the proposed risk mitigation measures. Insert additional rows if necessary.

For probability: High has significant probability, Medium has moderate probability, Low has negligible probability
For impact: High has significant impact, Medium has moderate impact, Low has negligible impact
Prohibited practices include abuse, conflict of interest, corruption, retaliation against whistleblowers or witnesses, as well as fraudulent, coercive, collusive, and obstructive practices

Selected Risk Factor 1		
Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
469. The COVID-19 pandemic fails to recede significantly by project inception and/or surges are experienced during project implementation. Vaccination is not widely available, and/or available vaccines become ineffective against new variants. As a result, personnel responsible for project design or implementation may become ill; authorities may increase or institute new restrictions on work, meeting, and travel, or curtailment of those activities may become advisable to safeguard the health and safety of project participants; and supply chains may be interrupted. Consultations with community members under the ESMF cannot safely be conducted in person.		
Mitigation Measure(s)		
470. The ten-year term of the project mitigates much of the expected short-term effects of COVID-19 on project implementation, even if the pandemic results in delays early in that term. The risk within this scenario with the most significant potential impact is likely delay in site visits and consultations with communities under the ESMF. To mitigate this risk, the Executing Entities will develop guidance for conducting field work during the pandemic, which will comply with the government's COVID-19 safety measures and may also draw upon such sources as WWF's existing guidelines for conducting field work during the pandemic. The Executing Entities will also apply such measures as preliminary proxy and virtual consultations with representative bodies and federations, to establish benchmarks and take other preparatory steps for application when in-person consultations may be conducted safely.		
Selected Risk Factor 2		
Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
471. The anticipated sustainable financial mechanisms are unsuccessful or delayed in impact because of the COVID-19 pandemic. E.g., the rebound of local/international tourism is slower or less robust than anticipated; contraction or slow growth of the Colombian economy decreases the anticipated revenue from Colombia's carbon tax.		
Mitigation Measure(s)		

472. The fundamental design of the financial model mitigates this risk, by anticipating less contribution from these mechanisms early in the term of the project, with greater contribution later as part of the project's exit strategy, when impacts of the pandemic on these sectors are likely to have receded. Experts predict that Colombia's economy is expected to recover early during the term of the project. According to the OECD in June 2022, "GDP is projected to grow by 6.1% in 2022 and 2.1% in 2023. Private consumption is the main driver of the recovery, driven by a gradual pick-up of employment. Strong commodity prices have improved the terms of trade and are supporting fiscal outcomes, against the background of rising external demand... Colombia's economy has recovered remarkably well from the COVID-19 crisis." [162] The project's anticipated financial mechanisms, which will be implemented during project implementation, are expected to generate revenues starting around year five, when the impacts of the Covid pandemic are likely to have significantly receded. The project is designed to have these mechanisms functioning by the end of the project to cover the long-term financial gap, rather than to cover costs in the project's first years of implementation. The design of diversified financial mechanisms is a key part of the project's exit strategy, and these alternative mechanisms are designed to provide resilience against future shocks such as COVID-19 that affect single mechanisms such as tourism revenues.

Selected Risk Factor 3	Probability	Impact
Technical and operational	Medium	Low

Description

The cost of project activities increases over its ten-year term.

Mitigation Measure(s)

473. The project costs include a projection of anticipated cost increases and salary increases. The financial model also includes a contingency for unanticipated cost increases.

Selected Risk Factor 4

Category	Probability	Impact
Political	Medium	Medium

Description

474. Regulatory changes during the project's ten-year term do not prioritize climate change mitigation and adaptation. Regulatory changes or lack of enforcement result in increased deforestation and/or decreased water provisioning and regulation. Laws necessary to support financial mechanisms are not implemented or are delayed.

Mitigation Measure(s)

475. Colombia's newly-elected President Gustavo Petro, who took office on August 7, 2022, has made climate a central feature of his proposed agenda. His administration has already taken steps that bode well for the stability of the project's financial mechanisms: In August 2022, the Colombian Finance Minister presented a tax reform proposal to the Colombian legislature. The proposal, which will likely undergo moderate changes during legislative debate, reflects the government's intent to use taxes to accelerate an energy transition. The plan aims to generate new revenue in 2023, approximately 50% of which will come from higher taxes on companies. Among many other things, the carbon tax will be extended to cover thermal

[162] https://www.oecd.org/economy/colombia-economic-snapshot/

and mineral coal (but not coke fuel) starting in 2025. If the new administration's proposal makes it into law, the amount of carbon tax financing destined for the HeCo program will increase.

476. Colombia's climate commitments are subject to the incentives of the Paris accords. The government's long-term climate policy strategies to comply with those commitments, such as the Long-Term Climate Strategy of Colombia and Colombia's National REDD+ Strategy, which is registered in the UNFCCC information hub,[163] will help provide regulatory continuity during and beyond the project's term. The Republic of Colombia will also indicate its long-term support for HECO through a significant public statement/policy by, among other things, approval of a "CONPES," and the inclusion of the Republic of Colombia's contributions to the HECO PFP project in its Medium-Term Fiscal Framework. A "CONPES" is a strategic policy document issued by The National Council for Economic and Social Policy, the highest national planning authority, which acts as an advisory body to the Government in all aspects related to the economic and social development of the country; the AE's local legal counsel has advised it that the CONPES is the highest level, most durable planning tool to mainstream the project into national, regional, and local policies and strategies. In addition, the government of Colombia has played a central role in the planning for this project: The Ministry of Environment and PNN are parties to the general MOU under which the project proponents have and are designing the overall HECO project, the related Project Finance for Permanence project, and this GCF project and proposal, and have been active participants in designing and negotiating the project activities, budget, governance, and monitoring and evaluation mechanisms. Government representatives sit on the existing HECO steering committee and will sit on both the steering committee and techincal committees described in the governance arrangements.

Selected Risk Factor 5

Category	Probability	Impact
Foreign Exchange	Medium	Low

Description

477. Currency fluctuation will affect project costs over the project's ten-year term. Historically, the Colombian peso has declined against the US Dollar.

Mitigation Measure(s)

478. The GCF funding will be disbursed quarterly throughout the project's term, in the historically and presumptively more stable currency of the US Dollar, which will mitigate the impact of any devaluation of the Colombian peso relative to the dollar. In its Co-financing grant agreements, WWF-US expects to require Patrimonio to hold this Co-financing in Colombian peso denominated accounts to allow for an onshore account. Although the project's financial model is articulated in US Dollars, most costs will eventually be incurred in Colombian pesos, with currency conversion to take place upon receipt by Patrimonio for project costs. The Operating Manual governing Patrimonio's management of these funds incorporates a strategy to mitigate exchange rate risk. The project financial model also includes a contingency fund that may be available to mitigate the impact of currency fluctuation.

Selected Risk Factor 6

Category	Probability	Impact
Governance/Operational	Medium	Medium

Description

[163] https://redd.unfccc.int/info-hub.html

479. Illegal activities such as agricultural expansion (including illegal crops such as coca), land grabbing, illegal mining, illegal infrastructure, and illegal wood extraction persist or expand in some project areas, making implementation unsafe or impossible, decreasing carbon stocks through deforestation, and/or reducing water regulation and provisioning. Barriers put up by those engaged in illegal activities to keep authorities and communities away from drug trafficking zones endanger people.

480. The risk of illegal activities in some areas in Colombia is an acknowledged, ongoing risk. In the project areas, the risk that these activities will make implementation unsafe or impossible, decrease carbon stocks through deforestation, and/or reduce water regulation and provisioning is considered to be "medium." The proposed project aims to promote legal and sustainable economies to address illegal and illicit economies that change land uses and increasing land degradation.

Mitigation Measure(s)

481. The project areas have been selected to avoid the highest risk areas for illegal activities. However, deforestation processes are often related to illegal activities that could affect the project's implementation, and the mitigation and adaptation goals of the project cannot be achieved without addressing deforestation. Therefore, in areas where these risks exist, the project includes activities that involve local communities and implement protocols to assess and communicate existing impacts and make the needed adjustments to implement activities and intervention in those areas. These activities have been prioritized based on the following assessment of the risks in each project area:

Mosaic	Agricultural expansion	Land grabbing	Illegal mining	Illegal infrastructure	Illegal wood extraction
Caribbean	Moderate	Low	Moderate	Low	Low
San Lucas	High	Moderate	High	Moderate	High
Central Andes	Low	Low	High	Low	Moderate
Orinoco transition	Moderate	Low	Moderate	Low	Moderate
Heart of the Amazon	High	High	High	High	High

482. The Executing Entities will implement the Security Protocols in each of the project areas to mitigate the risk of the presence of illegal armed groups in each territory. (See Appendix 4: Security and Safety Protocols of Annex 6: Environmental and Social Management Framework.)

483. The peace process also continues to make progress in mitigating this risk, at least with respect to illegal crops. As of May 2022, the Government reported cumulative investments since 2017 of close to $600 million in the National Comprehensive Programme for the Substitution of Illicit Crops, allocated for areas such as eradication, technical assistance and productive projects. Nearly 46,000 hectares of illicit crops have been voluntarily eradicated by 99,097 participating families (9% in indigenous reservations and 12.6% in Afro-Colombian community councils), with high levels of compliance and low levels of replanting.[164]

484. The new president Gustavo Petro's government program includes among its central points a strategy to fight illegal economies and to engage in dialogue with armed actors in the territories, which will further mitigate this risk in the project.[165] The government will also implement the peace agreement by strengthening the National Program of Illicit Crops through its "Territories for Conservation - TPC" strategy, which seeks to offer alternative payments for environmental services for families affected by illicit crops, implementing actions such as collective agreements for conservation and restoration, incentives for conservation, technical capacity building, and sustainable production systems.[166]

[164] United Nations Verification Mission in Colombia, Report of the Secretary-General 27 June 2022, at ¶ 20.
[165] https://gustavopetro.co/descarga-programa-de-gobierno/
[166] Undecimo informe de verificación de la Implementación del Acuerdo final de Paz en Colombia. Secretaría Técnica del Componente Internacional de Verifiación CINEP/PPP- CERAC, Agosto 2022.

Selected Risk Factor 7		
Category	Probability	Impact
Governance/Operational	Medium	Medium

Description

485. The presence of armed groups and conflict in project implementation areas, and/or the presence of common or organized crime, present threats (including gender-based violence) to safety and security of project participations, and/or prevents or delays project implementation. Despite the historic peace process of which this project is a direct beneficiary and the disarming of the FARC in 2017, armed groups are still present to some degree in rural areas. In 2020, government rangers were recalled from certain national parks, including one of the project areas, after receiving threats from former FARC dissidents. The most recent Krok Institute quarterly peace process verification report cites a "[d]eteriorating security environment for rural communities, especially in the Pacific region."[167] During the period under analysis, "armed confrontations between illegal armed groups persisted."[168] The most recent UN Security Council verification report describes the security situation as "of concern in areas historically affected by the conflict,"[169] and observes that in 2022, the Mission has observed an increase in violence against social leaders and civil society organizations in areas of Antioquia, Arauca, Bolívar, Cesar, Putumayo, Santander and Valle del Cauca Departments.[170]

Mitigation Measure(s)

486. The project areas have been chosen to mitigate this risk. For example, they do not include areas on the Venezuelan border such as the Norte de Santander department that have been the site of recent conflict and where the most recent Krok Institute quarterly report identified persistent armed conflict. They do not include Cauca, and Antioquia, two of the areas the most recent Krok Institute reports identify as regions where assassinations of social leaders have taken place,[171] and/or where people were living in forced confinement, or displaced, due to illegal armed groups' presence and actions.[172] Nor do they include Caquetá or Nariño, which the reports identify as regions where attacks on ex-combatants have taken place (in addition to Cauca and Antioquia). The diversification of project sites also mitigates the risk that conflict or the presence of armed groups in one area will delay or prevent a substantial number of project activities. Security experts do not currently believe localized security risks involving armed groups will have national impact.

487. However, some project areas will receive special mitigation attention due to historical conflict and the persistent presence of armed groups and illegal economies -- mainly the Caribbean landscape, the Serranía de San Lucas, and the Macarena-Chiribiquete corridor in the Amazon landscape. These regions have been prioritized by the Colombian State in the framework of the Peace Agreement to receive special attention through the so-called Development Plans with Territorial Approach (PDET), which are a special 15-year planning and management instrument aimed at transforming and stabilizing the territories most affected by violence, poverty, illegal economies, and institutional weakness. The project areas that coincide with PDET instruments are:

Landscape	**PDET Sub-region**	**Departments/ Municipalities**

[167] Krok Institute Quarterly Report: October – December 2021, at 7.
[168] Krok Institute Quarterly Report: October – December 2021.
[169] United Nations Verification Mission in Colombia, Report of the Secretary-General 27 June 2022, at ¶ 10.
[170] United Nations Verification Mission in Colombia, Report of the Secretary-General 27 June 2022, at ¶ 68.
[171] Krok Institute Quarterly Report: October – December 2021, at 25.
[172] Krok Institute Quarterly Report: October – December 2021, at 7. Krok Institute Quarterly Report: July – September 2021, at 5-6.

Caribe	Sierra Nevada y Perijá	Cesar: Agustín Codazzi, Becerril, La Jagua de Ibirico, La Paz, Manaure, Pueblo Bello, San Diego, Valledupar La Guajira: Dibulla, Fonseca, San Juan del Cesar. Magdalena: Aracataca, Ciénaga, Fundación, Santa Marta
San Lucas	Sur de Bolivar	Antioquia: Yondó. Bolívar: Arenal, Cantagallo, Morales, San Pablo, Santa Rosa del Sur, Simití
Heart of the Amazon	Macarena Guaviare	Meta: La Macarena Guaviare: San José del Guaviare, Calamar, El Retorno, Miraflores.

488. In the case of the Andes and Transition Orinoco landscapes, there are no municipalities that directly coincide with PDET zones.

489. The Executing Entities will coordinate with the territorial institutions that coordinate the implementation of the PDETs in each subregion to coordinate project activities with these planning instruments, as well as the security measures that must be implemented within the biosecurity protocols for each landscape. In the case of the Caribbean landscape, especially for the Sierra Nevada de Santa Marta and Serranía de San Lucas expansion process, the Executing Entities will coordinate the project's security actions with the National Natural Parks Security Office, which leads these processes in these areas. In the remaining project areas, the Executing Entities will apply the Security Protocols described in Appendix 4 of Annex 6 EMSF.

490. As described in the ESMF, the Executing Entities have committed to and will apply Security Protocols for field trips that expressly address these risks, including threats to communities and/or allies; coercion and extortion; kidnappings, illegal roadblocks and actions to control territory by illegal armed groups riot; antipersonnel mines and crossfire; gender-based violence and sexual violence; thefts, robberies, and swindling; and road risks and land, river and air travel accidents. (See Appendix 4: Security and Safety Protocols of Annex 6: Environmental and Social Management Framework.) Prior to accessing project areas, the Executing Entities will analyze the context and security situation with different sources of information, including civil and law enforcement authorities, local organizations and think tanks, communities, and social and environmental leaders.

491. The Executing Entities will adapt these Security Protocols to the conditions and dynamics of the armed conflict in each of the landscapes, especially those prioritized as PDET zones, and evaluate them periodically during project implementation given the changing conditions of public order and illegal armed actors.

492. In addition, while it is impossible to absolutely prevent the risk of impact on the project from armed conflict, the timing of the project is well-suited to take advantage of progress that has been made in implementing the peace agreement, particularly for purposes of this particular set of security risks, progress made on Point 3 of the agreement, “end of the conflict.” For example, the Strategic Plan for Security and Protection for People in Reincorporation (PESP) was adopted in 2021. The first Community Promoters of Peace and Coexistence of the Comprehensive Security and Protection program for communities and organizations in the territories was accredited in September 2021. 432 of 715 municipalities were declared free of suspected antipersonnel mines by 2020, and 16 additional municipalities became mine-free over the course of 2021.[173] In what the UN Security Council characterized as “a major step for transitional justice in Colombia,” the Special Jurisdiction for Peace carried out its first public hearings on acknowledgement of truth and responsibility in the most recent UN verification period.[174]

493. The most recent Krok Institute verification report identified the “promot[ion of] the implementation and coordination of the Accord’s security and protection measures” as an “opportunity” because additional

[173] Krok Institute Quarterly Report: October – December 2021, at 23.
[174] United Nations Verification Mission in Colombia, Report of the Secretary-General 27 June 2022 at ¶ 6.

progress needs to be made on it.[175] The project itself may contribute to taking advantage of that opportunity, by including among its activities work with landless communities to support territorial security.

494. The Executing Entities will work in coordination with the local institutions responsible for the implementation of the PDETs in each landscape and at the national level with the National Agency for Territorial Renewal - ART - to ensure that the goals and results of the project are aligned with the national goals for the implementation of the peace agreement. The membership of the Ministry of Environment and National Parks in the HeCo program's Steering Committee will also help ensure that the Project contributes to the fulfillment of the peace agreement goals, as well as to maintain experienced and sophisticated oversight of security issues in the Project's landscapes.

495. Finally, given the worrying figures of human rights violations and deaths of environmental social leaders in the country, according to the quarterly report of the United Nations verification mission in Colombia, which reports that in the period from March to June 2022 there have been 541 murders of social leaders,[176] and given that the project will have a significant implementation by the communities, the Executing Entities will include within the Security Protocol special protection measures for community leaders of the project in coordination with the competent authorities in the matter both nationally and in each landscape.

Selected Risk Factor 8

Category	Probability	Impact
Governance/Operational	Medium	Medium

Description

496. Political instability affects the national or regional governments' will to carry out their financial obligations or programmatic commitments, or their ability to manage protected areas. The ten-year project is likely to carry through multiple political administrations, beginning with a time of political instability in some Latin American countries as a result of COVID-19. Recent strikes by unions and student groups against the Colombian government's proposed tax reforms, which resulted in road blockades and supply disruptions, highlight the potential for political disruption in Colombia, but also demonstrate relative stability of the government despite these protests and the impact of COVID-19.

Mitigation Measure(s)

497. To mitigate this risk, the project activities include continued engagement and relationship management with new administrations to maintain ongoing political support. In addition, the project is designed to bind the government of Colombia to the maximum extent possible, given the unavoidable reality that it is a sovereign republic. The government's climate commitments are subject to the incentives of the Paris accords. The GCF's very presence as a multilateral, repeat-player donor will provide a greater disincentive to change in government commitment than would be the case were the project's donors all private individuals or institutions. The government's commitments, including its agreement to the financial model and project governance and an express commitment to procure public sources of financing required to ensure HeCo's public financing needs within the framework of its Conservation Plan and Financial Model, are the subject of a written agreement with the project participants; and the Republic of Colombia has indicated its long-term support for HECO through a significant public statement/policy by, among other things, approval of a CONPES and the inclusion of the Republic of Colombia's contributions to the HECO PFP project in its Medium-Term Fiscal Framework. The government will not manage or receive GCF funding. The GCF's requirements on "Major Changes" to the project will be flowed down to the EEs in the Subsidiary

[175] Krok Institute Quarterly Report: October – December 2021, at 27.
[176] Informe Trimestral del Secretario General – Misión de Verificación de las Naciones Unidas en Colombia. S/2022/513

Agreements, which will be enforceable against them and flow down the GCF's remedies in the Funded Activity Agreement and AMA.

Selected Risk Factor 9

Category	Probability	Impact
Governance	Low	Medium

Description

498. Donors who have committed Co-financing do not deliver that co-financing or do not deliver it on time. The HECO Steering Committee, which may withhold distributions of Co-financing committed to the project, does not authorize disbursements because performance milestones have not been met.

Mitigation Measure(s)

499. All private funds that will comprise World Wildlife Fund's Co-financing are pledged to it in binding, legally enforceable agreements that in keeping with the Project Finance for Permanence model, became binding at shortly after the "closing" when all the necessary funding had been pledged. Private donor funding that will be Co-financing for this GCF project will be held at WWF until an FAA for the project becomes effective, and then granted to and held in a dedicated fund managed by Patrimonio during the project and disbursed over time. The HECO Steering Committee is expected to have the authority to hold back disbursement of the Co-financing held in that fund if performance-based disbursement conditions are not met, but those disbursement conditions will work in concert with the GCF and AE's conditions on the expenditure of GCF funds by providing performance-based incentives and disincentives to changes that would also result in a Major Change under the Funded Activity Agreement. In addition, the AE has a seat on the HECO Steering Committee, and changes to the Project Finance for Permanence project's financial model will require a supermajority vote.

Selected Risk Factor 10

Category	Probability	Impact
Governance/Operational	Medium	Medium

Description

500. The government of Colombia does not deliver or does not timely deliver on its funding commitments. Credit agencies Standard & Poor's and Fitch lowered Colombia's credit rating in May and July 2021, respectively, one level below investment grade.

Mitigation Measure(s)

501. Colombia's carbon tax, which comprises the government's Co-financing, is enshrined in law (article 223 of Law 1819/) as part of the government's plan to meet its commitments to Green Growth, OECD entry requirements, and the Paris Agreement, among others. MINAMBIENTE Resolution 0505 of May 17, 2022, established that for fiscal years 2023 onwards, of the total resources referred to in numeral 1 of article 35 of Law 2169 of 2021, 17.35% of the specific destination of the Carbon Tax shall be used to finance the strategies for the protection, preservation, restoration and sustainable use of strategic areas and ecosystems.The government's commitments to this project, including its agreement to the Project Finance for Permanence's financial model (which includes its funding contribution) and governance, and an express commitment to procure public sources of financing required to ensure HeCo's public financing needs within the framework of its Conservation Plan and Financial Model, are the subject of a written agreement with the

project participants, which was entered into as a condition upon the commitment of donor funds. In order to reduce the risk, the HECO PFP, which the GCF Project is nested within, will also include efforts to support the development of additional financial mechanisms and diversification to lower risk over the ten-year period of the GCF Project (see B.6 Exit strategy). Although S&P's downgrade will likely lead to increased sovereign risks and obstacles to future debt issuance, Colombia's economy has recovered remarkably well from the COVID-19 crisis, and strong fiscal and monetary policy support have averted a stronger contraction of incomes. Experts do not believe Colombia is at risk of not meeting its payment obligations in the foreseeable future.

Selected Risk Factor 11

Category	Probability	Impact
Governance/Reputational	Low	Medium

Description

502. Social conflicts delay the implementation of activities in one or several project areas, and/or result in the lack of consent of indigenous populations or communities to project activities. Conflict could arise between communities and National Protected Areas Authorities over declaration of new protected areas or the expansion of the Natural Park Sierra Nevada de Santa Marta.

503. For the expansion of Sierra Nevada de Santa Marta, the prior and informed consultation process has already taken place. All the three indigenous groups inhabiting the territory of the proposed expanded area have approved the expansion, so the probability of conflict around this expansion is low. The consent of the indigenous groups is formalized for the activities which are related to the expansion and there is agreement about the consultation process.

504. The San Lucas declaration process is in a preliminary stage based on the legal roadmap for the creation of a possible new protected area. The process is being led by the national authority responsible for the declaration of conservation areas. The area of the park has not been yet delimited. As such, the project and its stakeholders with have to follow the pace of the evolutions of that process. The preliminary stages are fulfilled with the local groups identified to define the methodology and the agreement to move forward with the process of designation. As the national processes described are unconcluded, FPIC has not been formally undertaken for San Lucas. However, the AE has assessed the risk involved for indigenous peoples, should the area include them. That risk is low as, unlike the Caribbean mosaic, it does not involve changes in land use, and the likely impact it will have on indigenous peoples' rights and livelihood is not high.

Mitigation Measure(s)

505. The Executing Entities and executing partners will conduct continuous stakeholder engagement and apply conflict resolution mechanisms for their activities. The impact of potential social conflicts on project implementation is deemed low to medium because conflicts, if arising, would affect only one or several discrete project areas in distinct parts of the country, so that project implementation would still continue in the other project areas. By improving local governance among the core project activities, it will have a general positive impact on conflict resolution. With respect to the declaration of new protected areas (San Lucas) and the expansion of Santa Marta, the Executing Entities and execution partners will implement consultation programs involving local communities to agree on mitigation measures to avoid impacts on local communities' livelihoods and cultural resources. These mitigation measures are further elaborated in the Process Framework, an Indigenous Peoples Process Framework included in the ESMF, and the Stakeholder Engagement Plan. The activities include support for local communities to facilitate internal discussion and increase their capacities to carry out mitigation and adaptation actions directly. Independent of this project, Executing Entity WWF Colombia has completed a national-level conflict analysis that analyzes the overlap between its work and existing social and armed conflicts in Colombia, including how conflicts affect

conservation work and vice versa. This process has resulted in additional risk mitigation measures that will be applied to this project. (See details in Annex 6 ESMF.)

506. Furthermore, during the designation process for San Lucas, the type of category, the type of uses and zoning will take place based on the social and institutional engagement process. In parallel to the creation of the conservation area, within the past year a resguardo indígena, is also being created in the area. That process is also being led by the national government and has an impact on implementing a FPIC process, as so far no indigenous authority has been formally identified by the government. It is probable the declaration of the region as a protected area could enhance the protection of land rights of the indigenous peoples. The designation process will be based on social agreement with local communities to enhance land tenure rights and define the type of use allowed, type of investments and wellbeing, restoration and food production practices to benefit the area and local communities. Finally, the policy of the new government establishes measures to: promote land tenure rights overlapping with multiple use protected areas, enhance social governance in the area, and promote nature-positive strategies in critical areas. The proposed HECO project establishes these types of activities, promoting both territorial security and conservation measures as part of integrating risk management and conflicts in the area.

Selected Risk Factor 12

Category	Probability	Impact
Governance/Reputational	Low	Medium

Description

507. Conflict arises between communities and government institutions related to water management and planning and land use.

Mitigation Measure(s)

508. The project activities expressly include improved governance critical for conflict resolution related to use of land and resources, e.g., over water scarcity in Caribbean and Andes mosaics and change in land use (deforestation) in the Amazon and Orinoco Transition Mosaic. Indeed, improved governance structures for climate-responsive planning and development make up all of the first Outcome of the project's Theory of Change. The Executing Entities and executing partners will carry out consultation and training programs with local communities and government related to the management of water resources and land use, and to agree on all mitigation measures to avoid conflicts.

509. Additionally, the government program of the current President Gustavo Petro includes as a priority the implementation of the Integral Rural Reform (RRI) established in the peace agreement and to address conflicts associated with land use and land tenure, for which it is expected to soon develop policy and regulatory instruments to fully address this issue. It has also included within its governance approach, the search for instruments to help solve regional conflicts associated with land tenure, which will contribute greatly to controlling one of the highest levels of deforestation in the regions due to this cause. It is hoped that the project can contribute to these national goals to improve this identified risk.

Selected Risk Factor 13

Category	Probability	Impact
Prohibited practices	Medium	Medium

Description

510. Corruption, fraud, or abuse leads to theft, misappropriation, waste, or improper use of property, assets, or GCF funding. The 2021 Capacity to Combat Corruption Index, a data-driven tool to assess the ability to detect, punish, and prevent corruption across Latin American countries, places Colombia squarely in the middle of those countries, ranking it seventh of 15.

511. Colombian authorities are investigating allegations reported in the Colombian press that government officials abused their positions to divert peace accord implementation funds, which were meant for some of the country's regions most adversely affected by Colombia's civil war – the Programas de Desarrollo con Enfoque Territorial regions or "PDETs." Oil and mining companies pay royalties to the Colombian government, and Órganos Colegiados de Administración ("OCAD") administer those funds. Colombia's peace process committed the government to fund, as part of point 1 of the accords, Integral Rural Reform, and to do this the government set up a subset of the OCAD called "OCAD Paz." OCAD Paz funds support the PDETs. The allegation in the investigation – which is in its early stages and not proven -- is that government officials who served as gatekeepers, in the National Planning Department which administers OCAD Paz, the Comptroller's Office, and Congress, took bribes to shepherd funding projects through the OCAD Paz approval process.

Mitigation Measure(s)

512. As part of its financial and operational due diligence, the AE has assessed Patrimonio and WWF Colombia in the areas of financial management, internal controls, accounting, human resources, procurement and procurement systems, equipment management, the ability to comply with donor requirements, and whether their overall policies and procedures, experience, and level of supervision proposed for this project are sufficient to mitigate any potential risks or vulnerabilities related to prohibited practices. The assessment revealed that, while mention of Fraud and Corruption is included in their Code of Ethics Policy and their procurement policy, Patrimonio did not have a specific policy on Fraud and Corruption that includes a Whistle-blower policy. It will be a requirement that Patrimonio develop a policy that meets the AE's standards prior to the approval of a grant agreement from the AE.

513. The AE will require Patrimonio to bear primary responsibility for managing this risk through the following means: The covenants and warranties in AE's Subsidiary Agreements with the EEs will include, among other things, (a) compliance with all anti-bribery laws applicable to the EE,(b) the requirement of undertakings with subrecipients that they shall not, directly or indirectly, in connection with the Funded Activity, pay, offer, give, promise to pay or authorize payment of, or solicit, receive, or agree to receive, any monies or other things of value to or from anyone to obtain, influence, or reward any improper advantage; (c) compliance with the GCF Policy of Prohibited Practices; and (d) compliance with the HeCo Operating Manual. The HeCo Operating Manual, among other things, (a) requires Patrimonio to obtain mandatory anti-corruption certifications from subrecipients; and (b) incorporates a written Procurement Policy for Patrimonio's procurements based on principles of competitive procurement, equity, and transparency.

514. The following controls are designed to assure that any materials or technology procured under this project are used only for the purposes intended and are not diverted or misused for unauthorized, improper or illicit purposes: The covenants and warranties in AE's Subsidiary Agreements with the EEs require, among other things, (a) that GCF funds are not used by the EEs, or any entity to whom the funds are disbursed, for any illegal or improper purposes, including by incorporating in subrecipient and subcontractor agreements provisions corresponding to the EE's own rules, policies, and procedures to comply with the GCF Policy of Prohibited Practices, (b) compliance with the GCF Policy of Prohibited Practices; and (c) compliance with the HeCo Operating Manual . The HeCo Operating Manual's Asset Management provisions require the resource manager withing Patrimonio to keep an inventory of acquired assets and report on it in a semi-annual financial report, to be responsible for the proper use of these goods, their repair, preventive and corrective maintenance, and to allocate them solely and exclusively for the fulfillment of the purposes and objectives of the project. The AE's Subsidiary Agreements with the EEs require a disposition plan for the

AE's review and approval for remaining durable assets or equipment upon completion or termination of the project.

515. Disbursement of cash, vouchers, commodities, or other items of value directly or indirectly to individual beneficiaries is not anticipated. If this expectation changes in the future, agreements will be signed with the relevant community that includes guidelines for distribution and reporting including of proof of expenses and receipts. If that is not possible in some rural areas, it may be replaced by a declaration on the use of the funds that includes expenses' details. Administrative monitoring, including physical verification as appropriate, will be included in the relevant EE's roles and responsibilities.

516. Any proposed mitigation specifically directed at the facts or outcome of the Royalties (SGR) investigation is premature and speculative, because the investigation has just begun and those facts and outcome are unknown. However, the AE and Executing Entities are monitoring public reports of the investigation and expect to put in place additional measures to mitigate corruption risks associated with the royalty program in question, as well as the kind of project approval corruption that seems to be alleged.

517. The Royalties investigation as reported publicly does not involve diversion of project funding or proposed project funding: the carbon tax that makes up the government's Co-finance to this project is separate from and not the same as the oil and mining royalties administered as OCAD funds, the carbon tax funds are administered by a different mechanism and bodies, and the projects funded through the OCAD Paz approval process are not project activities. The investigation does emphasize the need to mitigate the risk of corruption in the project design and implementation. However, the PFP model goes a substantial way toward mitigating the risk that gatekeepers may seek bribes to approve project funding: First, the identification and costing of project activities is developed in advance through the PFP's Conservation Plan and Financial Model, which was a participatory process not controlled by government gatekeepers. Second, the HeCo Steering Committee, which is majority non-government, controls any future changes to that Conservation Plan and Financial Model. Finally, to the extent certain grantees or recipients of goods or services (e.g., community organizations, education institutions, watershed councils, and water boards) may also be selected during project execution, they will be selected by criteria (see Table 14 above) that include their financial capacity, technical capacity in the relevant field, past performance in the relevant region, and their record of compliance and capacity to comply with the GCF and WWF-US policies flowed down to the EEs in the Subsidiary Agreements, including AML/CFT and Prohibited Practices policies and standards.

518. Notwithstanding the above, the project does touch on the separate Royalty program at issue in the investigation indirectly: Among the project activities are technical support activities, in the form of services, to help communities and entities make effective, sound proposals for the environmental project allocations of OCAD funds. These environmental allocations are subject to complex, open, and public proposal mechanisms, which both explains the need for technical support among the project activities, but also would seem to make corruption on the part of individual gatekeepers difficult. Nevertheless, as the investigation proceeds and more facts are known, it is likely that the Executing Entities will apply additional mitigation measures targeted to these support activities, including excluding from eligibility for technical support communities or entities that authorities have found to have made corrupt payments to facilitate access to OCAD funds.

Selected Risk Factor 14

Category	Probability	Impact
ML/FT	Low	Medium

Description

519. Money laundering or terrorist financing leads to improper use of property, assets, or GCF funding. Project actors fail to comply with all applicable anti-money laundering and countering financing of terrorism laws Treasury Department has listed certain Colombian nationals in its

Specially Designated National list under its Counter Narcotics Trafficking Sanctions program, including, among other things, compliance with UN sanctions and embargoes. While the Republic of Colombia is not currently subject to UN Security Council resolutions or sanctions, the United States Treasury Department has listed certain Colombian nationals in its Specially Designated National list under its Counter Narcotics Trafficking Sanctions program.

Mitigation Measure(s)

520. As part of its financial and operational due diligence, the AE has assessed Patrimonio and WWF Colombia in the areas of financial management, internal controls, accounting, human resources, procurement and procurement systems, equipment management, and the ability to comply with donor requirements, and will assess whether their overall policies and procedures, experience, and level of supervision proposed for this project are sufficient to mitigate any potential risks or vulnerabilities related to money laundering, terrorist financing, or prohibited practices.

521. The AE's Subsidiary Agreements will require compliance with the AE's and the GCF's anti-money laundering and anti-terrorist financing policies described in the Funded Activity Agreement and AMA and will flow down remedies for non-compliance. The Subsidiary Agreement will require that the EEs in turn flow down those provisions to all project subrecipients.

522. Before submission of the project to the GCF Board, the AE will compare the names of the EEs and the known executing partners against UN and US sanctions lists, including sanctions established by the United Nations Security Council; sanctions administered by the Office of Foreign Assets Control within the U.S. Department of Treasury pursuant to the Global Terrorism Sanctions Regulations, the Foreign Terrorist Organizations Sanctions Regulations, and Counter Narcotics Trafficking Sanctions. At the time of submission of this proposal the AE is not aware of any individual or entity expected to receive project funds or material support or resources that is included on those lists.

523. The following mechanisms will be available for the reporting of complaints and allegations of impropriety, wrong-doing or other related issues in the project and its activities (i.e., whistle-blower programs): WWF's whistleblower system is open to staff, partners, communities, and other stakeholders to report suspected illegal or inappropriate activity, or concerns about the implementation of WWF projects. This system is an online and phone mechanism hosted by a third-party provider, EthicsPoint, which can receive reports online or by phone in multiple languages. All complaints submitted through the mechanism are investigated. Patrimonio's complaint mechanism, which provides a form for submitting complaints, claims, and suggestions about fraud, corruption, environmental and social safeguards, gender policy, and procurement and contracts is accessible on its website.

G. GCF POLICIES AND STANDARDS

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

524. The project will comply with GCF's Environmental and Social Policy (ESP), including the Policy on the Prevention and Protection from Sexual Exploitation, Sexual Abuse, and Sexual Harassment (SEAH) and Indigenous Peoples Policy (IPP) through application of WWF's Environmental and Social Safeguards Framework, as detailed in the Safeguards Integrated Policies and Procedures (SIPP) and Guidance Note on GBV & SEAH. The project has been screened as Category "B" given that it is essentially a climate change mitigation and adaptation initiative, expected to generate significant positive and durable social, economic, and environmental benefits. Any adverse environmental and social impacts are site specific and can be mitigated. Screenings will be conducted at the output and landscape level to ensure any activities that move forward have a low or medium level of risk before proceeding.

525. An Environmental and Social Management Framework (ESMF) (Annex 6), including an Indigenous Peoples Planning Framework (IPPF) and a Process Framework (PF), has been prepared to define procedures for managing the project activities' potential environmental and social risks and impacts. Additionally, in-depth analysis of the security and conflict situation has been completed as part of the ESMF risk mitigation, as well as a standalone Security Assessment (Appendix 3 of the ESMF) and a Safety and Security Protocol (Appendix 4 of the ESMF).

526. The project is required to comply with WWF's Standard on Environment and Social Risk Management, the Standard on Grievance Mechanisms, the Standard on Stakeholder Engagement, and the Guidance Note on Gender-based Violence and (GBV) and Sexual Exploitation, Abuse and Harassment (SEAH).

527. The proposal formulation process has involved consultations with different types of stakeholders (communities, local governments, public entities, NGOs) at different levels (national, regional and local) using a gender-responsive approach, to ensure equitable and meaningful participation from women and men. During the 2020-2021 period, around 260 meetings and workshops were held involving around 1,242 people, 47% of whom were women. (See Annex 7 Stakeholder Engagement Plan, SEP.)

528. In addition to the aforementioned standards which are applicable to all WWF GCF AE projects, this project has triggered the following standards:

Standard on the Protection of Natural Habitats

529. Overall, activities of the project will produce significant conservation and climate mitigation and adaptation benefits and any potential adverse environmental impacts on human populations or important natural habitats are expected to be very limited. This standard is triggered as a precaution as the project directly targets protecting and restoring natural habitats; strengthening local communities' ability to conserve the natural resources they depend on; and transforming markets and policies to reduce the impact of the production and consumption of commodities.

Standard on Restriction of Access and Resettlement

530. There will be no land acquisition or involuntary resettlement of individuals and/or families under the project. This standard is triggered because there will be one new NPA created and one NPA expanded under the GCF HECO project. Full details of the consultation that has already taken place with communities in these areas can be found in the IPPF of Annex 6 and in the SEP of Annex 7 of the FP. The project includes activities to ensure effective management of NPAs and corridors; to implement conservation, use and management agreements; and to establish community water associations. These activities may restrict or prohibit the extraction of resources in certain areas of the NPAs and corridors, thereby restricting access to

resources required for the subsistence and cultural maintenance of the affected populations. A Process Framework has been prepared as part of the ESMF.

Standard on Indigenous People

531. This standard is triggered because there are indigenous and afro-descendant communities living in the Caribbean and San Lucas[177] mosaics, in all other mosaics there is only the presence of peasant/rural communities, not indigenous communities. The indigenous people in the Caribbean mosaic are the Kogui, Kankuamo, and the Arhuacos. Afro-Colombian communities include those in Guacoche and Guacochito administrative districts and in the community councils of Arcilia, Tunez and Cardona located in the rural area surrounding the city of Valledupar in the department of Cesar; and the community council of Obatalá located in the municipality of Fundación within the department of Magdalena. As the specific activities and locations of the project's activities are not yet defined, an Indigenous Peoples Planning Framework has been prepared as part of the ESMF.

532. In the meetings held with the Indigenous Organizations of the Caribbean landscape, a 7-month interaction process was achieved with the Sierra Nevada of Santa Marta indigenous organizations. During the interaction process, general information was provided regarding the project and the spaces created for indigenous peoples to give (or withhold) their consent to participate and to generate recommendations about the logical framework and the specific activities that will be carried out, that are of interest to the indigenous peoples. The organizations also made specific recommendations about social and cultural safeguards.

533. For the Serranía de San Lucas, the process is being led by the national authority responsible for the declaration of conservation areas, and the expansion process is in a preliminary stage based on the legal roadmap for the creation of a possible new protected area. The preliminary stages are fulfilled with the local groups identified to define the methodology and the agreement to move forward with the process of designation. During the process, the type of category and the type of uses and zoning will be decided based on the social and institutional engagement process. As those national processes are unconcluded, FPIC has not been formally undertaken but will proceed along with project implementation. However, the AE has assessed the risk involved for indigenous peoples, should the area include them. That risk is low as, unlike the Caribbean mosaic, it does not involve changes in land use, and the likely impact it will have on indigenous peoples rights and livelihood is low. It is probable that the declaration of the region as a protected area could enhance the protection of land rights of the indigenous peoples and other communities in the area.

534. In parallel to the creation of the conservancy area, a resguardo indigena has also very recently been created in the area. That process is also being led by the national government and has an impact on implementing a FPIC process, as so far no indigenous authority has been formally identified by the government. If the proposed protected area will overlap with any indigenous group's territory, a prior and informed consultation process must take place for the approval of the designation. The designation process of any type of protected area will include agreements with all communities and institutions in the area. Considering the social and political context of the area, a multiple use protected area is under discussion to promote rights of landless communities and define restoration, conservation and well-being investments that communities are requesting.

535. During the consultation and participation process with indigenous organizations, the organization were directly consulted, in accordance with national legislation and WWF requirements that requires processes of consultation and free, prior and informed consent of any initiative or project. For this reason, the indigenous organizations of the Sierra Nevada de Santa Marta were specifically summoned and participated.

[177] At the time of the proposal development, there was not a complete picture of the indigenous peoples in San Lucas. However, more information will be gathered on the peoples in this area during project implementation. The information currently available included within Annex 6 ESMF, including within the IPPF.

536. In the formulation phase, no specific spaces were held with national indigenous organizations due to national legislation that outlines their role in consultations being related to national policy-level decisions; however, information spaces with these organizations will be created once the project has started, given their importance for the follow-up of national climate change goals. The details of the participation process carried out with indigenous peoples and local communities are described in Annex 7 of the proposal.

Standard on Community Health and Safety

537. While the project is in general expected to have positive, neutral or minimal impacts on community health and safety, this Standard is triggered due to activities involving small-scale construction works and patrolling and surveillance. The ESMF will include guidance on assessing construction risks and proper ranger conduct, respectively, to address these minor risks.

Overall ESS Risk Considerations

538. Two Safeguards Specialists will be hired in the PMU to implement the ESMF and conduct compliance monitoring, supervision, and reporting. The EEs are able to implement the ESMF and associated monitoring, and where there might be gaps in capacity, the Safeguards Specialists will build capacity through trainings and collaboration.

539. A gender and SEAH-responsive project-level grievance mechanism will be developed in the first year of implementation, in line with the guidance and principles established in the ESMF. WWF Colombia's (EE) grievance mechanism and WWF US's (AE) grievance mechanism will be available throughout the project lifecycle, and accessible to stakeholders and project-affected peoples. The GCF's IRM will also be socialized.

540. The project has undergone an extensive stakeholder consultation process with a variety of different stakeholders. The project itself is aimed at increasing participation of IPLCs and vulnerable populations in land use planning and management for climate mitigation and adaptation. The Stakeholder Engagement Plan (Annex 7) details previous consultations and the plan to continue to engage stakeholders throughout project implementation.

541. The final ESMF (including IPPF and PF) and the SEP will be translated into Spanish before GCF Board Submission allowing for the 30-day public disclosure required by GCF's Information Disclosure Policy and final documentation will be disclosed in country in a locally accessible manner for 45 days per WWF policy before AE approval.

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

542. The mainstreaming of gender perspectives is understood as a dual process in which an analysis is carried out on the way in which gender relations affect the interventions proposed for the project as well as the means in which the interventions proposed in the framework of the initiative hope to modify the power relations between men and women from different communities. This is in order to make visible opportunities to promote the empowerment of women and ensure that the proposed actions do not increase or exacerbate existing inequalities. The project's gender analysis was developed through combining different information-gathering techniques in the Colombian context, mainly using secondary sources from specialized reports, official sources and project documents. The main content was shaped by guiding questions developed following the GCF and WWF-US Gender Policy requirements and guidelines. Due to the COVID 19 pandemic, it was not possible to hold face-to-face meetings with local actors to directly collect contextual information for the gender analysis. However, this limitation was partially overcome by holding presentation meetings/workshops in which exchanges with various regional/local and national actors provided access to primary sources of information, including inquiries among these actors which included women leaders and

women's associations, about progress and policies on gender issues currently being implemented at both central and decentralized levels in Colombia.

543. Annex 8 (Gender assessment and action plan) compiles detailed socio-demographic information on the country and the project intervention areas, regarding the situation of both urban and rural women, their condition, salary, resource use, educational, political and representation gaps, which add to an analysis of the continuum of gender-based violence and SEAH, to give a perspective of the scenario in which the situation of rural women deserves attention in terms of vulnerability reduction and empowerment potential to improve their condition generally and as it relates to their increased vulnerability to climate change. The results obtained in the gender assessment, including recommendations, have been used to develop a detailed gender action plan. The following is a summary of important results obtained from the gender assessment:

- Structural gender inequalities are a historical legacy in Colombia, and it is reflected in the unequal distribution of power, capital, lack of access to financing, work and livelihoods. These inequalities do not only depend on gender roles but also on other markers of power such as social class, educational level, rural origin (urban, ethnic-racial belonging, etc.)
- In Colombia there is a weak articulation between the national gender mechanisms and the institutions in charge of environmental issues. The strongest articulation occurs at the level of social organizations and civil society in the territory.
- Although there are very significant advances in access to education for women, gender gaps in terms of wages and access to work show that labor recruitment practices and unpaid work weigh particularly heavily among rural women, even more so on women from ethnic minorities.
- There are multiple institutional instances for the advancement of rural women, as well as national and international commitments for their promotion. However, it is observed that sector initiatives fail to reverse inequality and temporarily benefit a small number of women.

544. Based on the above, the project aims to mainstream gender throughout each project component by strengthening institutional capacities to address the linkages between climate change, adaptation and gender dimensions, while promoting the linking, strengthening, leadership and empowerment of groups of women in the project areas, decentralized initiatives and the role and action of women leaders to reduce current and potential gender inequalities. The project also aims to make visible the contributions that women make through unpaid care work aimed at sustaining life, caring for nature and climate resilience.

545. The Gender Action Plan (Annex 8) provides detailed gender-specific actions, associated indicators and targets. The project aims to be gender-responsive through its activities, outputs and outcomes that reflect an understanding of the gender roles, gaps and inequalities identified in the gender analysis and engages women and men to provide equal opportunities and distribution of benefits. It highlights the role of the project gender specialist within the PMU, who is responsible to supervise gender/social inclusion activities, provide support to gender focal points in each project mosaic, and to provide capacity building to project staff and stakeholders as needed on gender throughout the life of the project. The following provides a brief summary of the main principles for gender-specific actions and concepts that are detailed within the gender action plan:

- Identify mechanisms that ensure and promote equitable and substantive participation in consultation, analysis processes, activities at all levels of women and men;
- Develop institutional capacity-building for the integration of gender dimensions in environmental management, protected areas and climate policy and actions;
- Develop a continuous process of comprehensive training on the inclusion of a gender approach in all aspects of Protected Areas management as part of a specific gender strategy;
- Ensure authorities, technical experts and representatives of government and civil society institutions recognize and validate the action and knowledge of women and women-led organizations, promote and support their empowerment and agency;
- Ensure accountability and transparency in the management of climate governance agreements and measures that do no harm and take gender dimensions into account;

- Gender mainstreaming processes actively involve men and women at different levels of management, who are trained in the subject, including how to recognize and address GBV and SEAH, and recognize that gender structures are also present in relationship norms in professional environments.

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

546. WWF grants management and subrecipient monitoring is supported by a grants management system that is integrated across its donor management, accounting, and budgeting systems. This system provides notifications for due dates of deliverables (from the grant recipient and to the donor), tracks disbursements, project expenses, milestones, audit findings (if applicable) and identified risks so that project supervision as a whole is informed and documented.

547. During project implementation, WWF will provide oversight and quality assurance in accordance with its policies and procedures, and any additional specific requirements contained in the subsidiary agreement (in the form of a grant agreement). This may include, but is not limited to, monitoring missions, spot checks, facilitation, and participation in project steering committee meetings, quarterly progress and annual implementation reviews, and audits at project level on the resources received from WWF.

548. WWF will advance funds to FPN and WWF Colombia, (for the implementation of agreed and approved project activities), through quarterly disbursements based on spending projections included with the quarterly financial reports, in accordance with WWF standard grants management policies. Consolidated project expenses will be reported semi-annually to the GCF (at the mid-year financial report and the Annual Performance Report (APR)). A dedicated project account will be setup by FPN and WWF Colombia to receive these disbursements, and any interest accrued during the project will be reflowed to the GCF, as will any unused funds at the time of the project's financial close. A statement of Investment Income earned on GCF Proceeds, as well as the amount of such Investment Income paid to the Fund for each calendar year of the project will be submitted annually by March 30 along with an unaudited financial statement per WWF's AMA.

549. All projects are audited annually following the WWF project audit guidelines. The project will have two annual audits: (1) WWF engages Grant Thornton (an internationally recognized audit firm, who was identified from an RFP) to conduct the annual audit of GCF-funded activity contained within its accounts; and (2) WWF will require that both EEs (WWF Colombia and Fundo Patrimonio Natural) engage an internationally recognized audit firm (approved by the AE) to complete an annual audit on all activities funded by GCF. A scheduled audit is used to determine whether the funds transferred to the Executing Entities were used for the appropriate purpose and in accordance with the approved project work plan and budget and the EEs's assessed policies and procedures. The annual project audit based on the calendar year, will be submitted to the GCF by June 30, for each year of execution.

550. For this project, the PMU will submit reports, annual work plans, budgets annual procurement plans to the AE. FPN and WWF Colombia will submit requests for disbursements. Reporting from all co-EEs will be consolidated by the PMU and submitted to the AE. WWF will then submit Annual Performance Reports (APRs) and financial reports to the GCF as defined within the AMA and FAA.

551. Both Fundo Patrimonio and WWF Colombia have procurement policies that meet the WWF AE minimum standards. Procurement will be executed according to the approved annual procurement plan and the EEs's policies and procedures.

552. This project will follow WWF's financial reporting templates and formats which are in line with internationally recognized reporting standards, as well as the GCF's required reporting templates.

G.4. Disclosure of funding proposal

Note: The Information Disclosure Policy (IDP) provides that the GCF will apply a presumption in favour of disclosure for all information and documents relating to the GCF and its funding activities. Under the IDP, 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. Information provided in confidence is one of the exceptions, but this exception should not be applied broadly to an entire document if the document contains specific, segregable portions that can be disclosed without prejudice or harm.

Indicate below whether or not the funding proposal includes confidential information.

☒ 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.

F. ANNEXES

H.1. Mandatory annexes

☒	Annex 1	NDA no-objection letter(s) **(template provided)**
☒	Annex 2	Feasibility study - and a market study, if applicable
☒	Annex 3	Economic and/or financial analyses in spreadsheet format
☒	Annex 4	Detailed budget plan **(template provided)**
☒	Annex 5	Implementation timetable including key project/programme milestones **(template provided)**
☒	Annex 6	E&S document corresponding to the E&S category (A, B or C; or I1, I2 or I3): **(ESS disclosure form provided)** ☐ Environmental and Social Impact Assessment (ESIA) or ☐ Environmental and Social Management Plan (ESMP) or ☐ Environmental and Social Management System (ESMS) ☐ Others (please specify – e.g. Resettlement Action Plan, Resettlement Policy Framework, Indigenous People's Plan, Land Acquisition Plan, etc.)
☒	Annex 7	Summary of consultations and stakeholder engagement plan
☒	Annex 8	Gender assessment and project/programme-level action plan **(template provided)**
☒	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 letter, 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	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	Assessment of GHG emission reductions and their monitoring and reporting (for mitigation and cross cutting-projects)[178]
☐	Annex X	Other references

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*

[178] Annex 22 is mandatory for mitigation and cross-cutting projects.