



## CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

### PART I: PROJECT/PROGRAMME INFORMATION

**Title of Project/Programme:** Enabling Dominican Republic's competitiveness through environmental sustainability and climate resilience from tourism (Blue and Green Tourism Project – TUUVE)

**Country:** Dominican Republic

**Thematic Focal Area:** Multisector Project

**Type of Implementing Entity:** Regional Implementing Entity

**Implementing Entity:** CAF – Development Bank of Latin America and the Caribbean

**Executing Entities:** To be confirmed

**Amount of Financing Requested:** 10,000,000 (in U.S Dollars Equivalent)

**Project Formulation Grant Request (available to NIEs only):** Yes  No

**Amount of Requested financing for PFG:** (in U.S Dollars Equivalent)

**Letter of Endorsement (LOE) signed:** Yes  No

*NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: <https://www.adaptation-fund.org/apply-funding/designated-authorities>*

**Stage of Submission:**

- This concept has been submitted before
- This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

**Please note that concept note documents should not exceed 50 pages, including annexes.**

# Project/Programme Background and Context:

## Summary

1. The beginnings of tourism in the Dominican Republic date back to 1931. The country is considered a “Caribbean hotspot” due to its high level of biodiversity. Its marine ecosystems have been listed as one of the 5 priority eco-regions for conservation in the world, according to the World Wildlife Fund (WWF) and Conservation International. It is home to unique ecosystems that harbor more than 6,000 species of flora, 7,000 species of fauna and 2,788 species of marine life. For the Ministry of Environment and Natural Resources (“Ministerio de Medio Ambiente y Recursos Naturales”) (**MMARN**), there are financial and technical challenges in developing activities related to biodiversity conservation and climate change.
2. For the tourist area of Estero Hondo and La Isabela, in the province of Puerto Plata, in the north of the Dominican Republic (DR), the analysis of **climate scenarios** reveals a challenging panorama. In recent years, there has been evidence of increased average temperatures, warmer nights and more frequent heat waves, decreased precipitation, rising sea levels, increased hurricane intensity, increased sea surface temperatures, and ocean acidification.
3. Extreme weather events in recent years have already had a major **impact** on this area, which has three urban centers, a dispersed population, and two large, protected areas: the Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park. The last prolonged drought of more than 6 years caused significant agricultural and livestock losses, increased water restrictions for the population, and wreaked havoc on ecosystems, including both flora and fauna, especially manatees, which need fresh water to survive. On the other hand, hurricanes Irma and Maria, both in September 2017, caused significant coastal erosion, displacing much of the beaches to sandbars in the sea, thus reducing the areas accessible to swimmers and further affecting tourism in the area. In addition, rising sea levels coupled with increased storms are threatening the historical heritage of La Isabela, where the remains of Christopher Columbus' first settlement on the island are located. Situated at the edge of the sea for more than 500 years, the wear and tear of time is being compounded by serious damage from accelerated coastal erosion. In addition, heat waves are becoming increasingly challenging for the population, which must resort to various strategies to withstand the high temperatures. In the sea, fishermen no longer find fish near the coast and there are even species that no longer exist, such as snappers (*Lutjanidae*) and groupers (*Serranida*); corals have been affected by the increase in temperature and acidification of the sea, causing bleaching; and seagrasses are declining due to anthropic pressures such as overfishing and tourism, and the increase in seawater temperature adds as a stressor for these species.
4. In addition to climate challenges, the region faces several **non-climatic factors that exacerbate the effects of climate change**, such as upstream deforestation (Unijica and La Jaiba basins), mainly driven by cattle ranching, which has contributed to arid conditions. In addition, poor waste and effluent management, poor boating practices that damage the reef and seabed with their anchors and affect marine mammals with their high speeds, and overexploitation of fishery resources are also relevant factors.
5. As a result, this zone has become a **forgotten area** in terms of investment. Due to the lack of opportunities, young people choose to **migrate** to the cities or abroad. However, the entire area has very important natural and cultural attractions, both on land and at sea, which could be the basis for an inclusive and community-based ecotourism that could provide a sustainable livelihood for the population.
6. Within this framework, the project aims to **reduce the vulnerability of coastal-marine and terrestrial ecosystems in the protected areas** of Hispaniola and Estero Hondo Mammal Sanctuary, and to **increase the resilience of livelihoods and well-being of the local population by promoting sustainable tourism** that is resilient to the risks of heat waves, drought, coastal erosion caused by sea level rise and the frequency and intensity of extreme events, ocean acidification and sea surface temperature. The project will seek to strengthen planning and monitoring of coastal and marine areas (Component 1); strengthen terrestrial and marine ecosystems against the impacts of climate change (Component 2); strengthen and diversify the livelihoods of the local population (Component 3); improve housing to contribute to the well-being and health of the local population against heat waves (Component 4); and strengthen the capacities of key stakeholders as well as enhance knowledge on climate change to improve the involvement of key stakeholders in climate action (Component 5).
7. The project will be led by **MMARN**, the Designated National Authority for the Adaptation Fund. **CAF**, Development Bank of Latin America and the Caribbean, will be the Implementing Entity (IE) and the Executing Entity(ies) (EE) are yet to be determined and will be confirmed during the full proposal development stage.

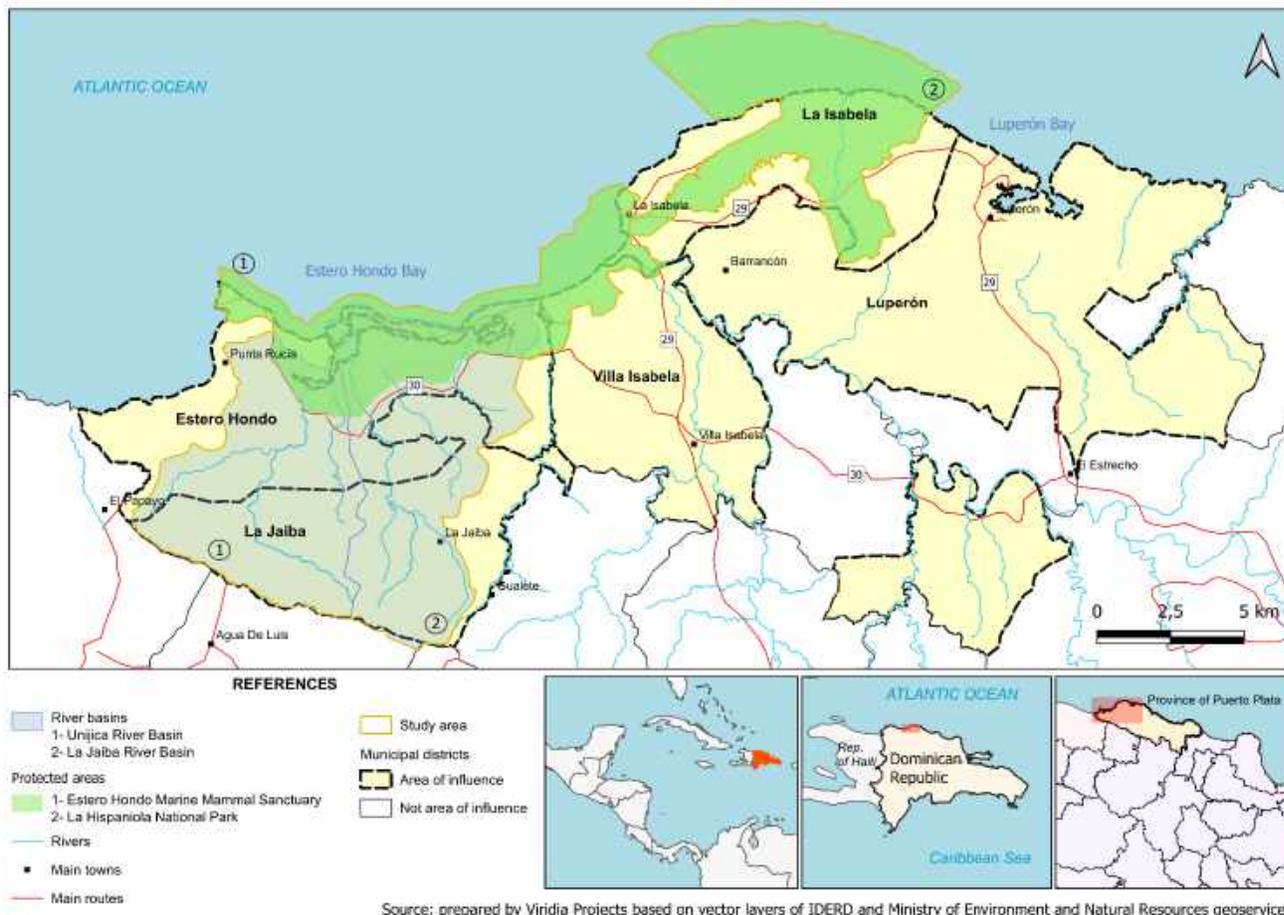
## Introduction to the Project area

8. The territory of the Dominican Republic is divided into 31 provinces and one national district, of which 17 are located along the coast and concentrate almost 70% of the total population. The Dominican coastline on the Caribbean Sea and the Atlantic Ocean is approximately 1,576 km long (including the adjacent islands), the vast majority of which corresponds to the Atlantic Ocean. This extensive coastal zone has a remarkable diversity of habitats and species, including approximately 200 beaches, 181 reef areas, 141 coastal lagoons, 41 areas with rocky shores, 25 dune

areas, 49 estuaries and 55 mangrove areas (MMARN, 2021). These ecosystems are used by urban and rural entities as they provide essential goods and services for economic activities such as fishing, agriculture, livestock, tourism, navigation and port development projects, as well as social activities such as recreation and environmental protection.

9. The project is located in the coastal province of Puerto Plata, in the northern Cibao region, specifically in the municipalities of Luperón and Villa Isabela, in the municipal districts (DM) of La Isabela, Estero Hondo and La Jaiba, where the Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park and the basins of the Unijica and La Jaiba rivers extend, the project area covers 16,500,767 ha of surface area and 34,795 km of coastline (Figure 1). The selection of this area was based on the following criteria: 1) the Climate Change Risk Study of Coastal-Marine Systems, conducted by DAI in 2022<sup>1</sup>, was reviewed and the ranking and results of the coastal communities most vulnerable and threatened by climate change were taken; 2) these results were crossed with data on sustainable tourism potential, multifactorial poverty levels, and the presence of climate finance and development projects in the area; the prioritization criteria established by the Adaptation Fund (AF) were also taken into account; and 3) the MMARN priorities were combined with those of the AF, resulting in the selection of the sites presented below. It is important to note that, according to the results of the vulnerability analyses presented later in this section, the entire project area has significant levels of climate risk.

**Figure 1.** General location map of the prioritized area.



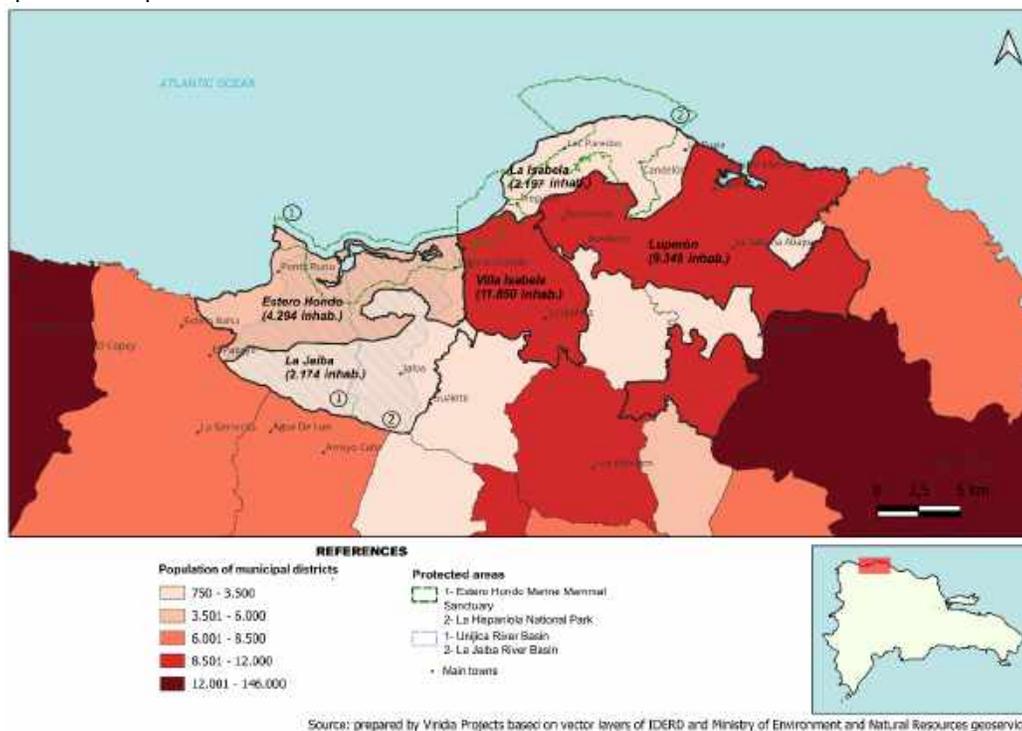
## A) **Social, environmental and economic context**

### a) **Demographic data in the project area**

10. Population: According to the National Population and Housing Census of 2022, the Dominican Republic has 10,760,028 inhabitants and a population density of 223 (Inhabs./km<sup>2</sup>). The municipality of Luperón has 17,577 inhabitants with a population density of 72 (Inhabs./km<sup>2</sup>) and the municipality of Villa Isabela has 20,278 inhabitants with a population density of 93 (Inhabs./km<sup>2</sup>).

<sup>1</sup> DAI Study 2022 - Study of the risk of climate change in coastal areas. (Estudio DAI 2022 - Estudio de riesgo ante el cambio climático en las zonas costeras.)

**Figure 2.** Population map.



11. **Educational level:** In the year 2021<sup>2</sup>, the illiteracy rate of the population over 15 years old was 6.3%, being the illiteracy rate higher in rural areas (11.8%), than in urban areas (5.1%). For the municipalities of Luperón and Villa Isabela, the SIUBEN data<sup>3</sup> is obtained for 2018 and the illiteracy rate was equal to 10.2% and 10.8% respectively.
12. In 2021, 35% of the female population over the age of 25 had only primary education, while another 26% had tertiary or university education<sup>4</sup>. The female illiteracy rate is about 0.1 point lower than the male rate. The number of students enrolled in primary education in 2020-2021 was equal between the sexes, with 50.2% male and 49.8% female; however, 38% of university enrolments were male and 62% female.
13. **Health and life expectancy:** For the year 2024<sup>5</sup>, life expectancy at birth is 75.1 years, the difference between the sexes is 72.38 years for men and 77.89 years for women. Among the chronic diseases with the highest prevalence is that, according to SIUBEN (Single System of Beneficiaries)<sup>6</sup>, in 2018, 11.6% people suffered from hypertension, 4.1% from diabetes and 3.7% from respiratory diseases nationwide, while for Luperón and Villa Isabela, 13.2% and 12.1% suffered from hypertension, 5.6% and 5.1% from diabetes and 2.9% and 3.2% from respiratory diseases, respectively.
14. **Disability:** The percentage of people in the country, registered in SIUBEN, with difficulties in seeing, hearing, walking, remembering, personal care or communicating was equal to 2.3% in 2018<sup>7</sup>, of which 52.2% are women. Within the municipalities, Luperón presents 8.8% and Villa Isabela 7.2% of people.
15. **Human settlements:** The Climate Shock Vulnerability Index (IVACC by its Spanish acronym<sup>8</sup>) of the country calculates the probability that a household (assigning values from 0 to 1) is vulnerable to hurricanes, storms and floods, given certain socioeconomic characteristics and proximity to risk hotspots. The closer to 1, the more vulnerable the household is. In 2018<sup>9</sup>, 25.1% of households registered in SIUBEN had a high score on the index (> to 0.7). Female-headed households have, on average, slightly lower vulnerability than male-headed households (0.469 vs. 0.479). The average value of the IVACC is 0.541 in Luperón and 0.625 in Villa Isabela.
16. **Quality of Life Index (QLI):** SIUBEN calculates the QLI, which combines different characteristics of the dwelling, the household and its members, and assigns each household a value from 0 to 100 and divides it into 4 categories from the poorest to the least poor, the closer to 0 the household has greater scarcity and lower quality of life. For 2018<sup>10</sup>,

<sup>2</sup> Data based on the National Labor Force Survey ("Encuesta Nacional de Fuerza de Trabajo", ENFT), BCRD. Statistical Yearbook ONE 2021.

<sup>3</sup> The Single System of Beneficiaries ("Sistema Único de Beneficiarios", SIUBEN) is the Dominican Government institution responsible for identifying and prioritizing eligible families to receive the benefits of social programs and subsidies provided with public resources. Approximately 65% of the Dominican population and about 73% of the population of the municipalities of Luperón and Villa Isabela are registered.

<sup>4</sup> Data based on the National Labor Force Survey ("Encuesta Nacional de Fuerza de Trabajo", ENFT), BCRD. Statistical Yearbook ONE 2021.

<sup>5</sup> Data based on information from Estimaciones y proyecciones nacionales de población 1950-2100, 2014. Statistical Yearbook ONE 2021.

<sup>6</sup> III Socioeconomic Household Survey ("Estudio Socioeconómico de Hogares", ESH). Single System of Beneficiaries (SIUBEN).

<sup>7</sup> Ibidem

<sup>8</sup> <https://siuben.gob.do/ivacc/>

<sup>9</sup> III Socioeconomic Household Survey ("Estudio Socioeconómico de Hogares" ESH). Single System of Beneficiaries (SIUBEN).

<sup>10</sup> Ibidem

6.7% of the households registered in SIUBEN had extreme poverty (QLI I) and 35.4% had moderate poverty (QLI II), i.e. 42.1% were considered poor using a multifactorial approach. 39.5% of female-headed households are classified as poor. One of the major deficiencies is that in rural areas, 75.2% of households have zinc as the predominant roofing material. Only 82.4% of households in the country have a private toilet at home, and of those with a sanitary toilet, only 20.7% are connected to a public sewage system. Only 53.0% of the country's households receive water for domestic use from the aqueduct within the home; in households of very low socioeconomic groups, the percentage drops to 7.5%. In Luperón and Villa Isabela, 52.7% and 49.8% of households belong to the QLI I and II categories, respectively, and it should be noted that 48.5% and 45.4% of households, respectively, have a source of water for domestic use other than the aqueduct.

17. **Monetary poverty:** The national average per capita family income<sup>11</sup> for the year 2023, according to the Continuous National Labor Force Survey (“*Encuesta Nacional Continua de Fuerza de Trabajo*”, ENCFT)<sup>12</sup>, was equal to RD\$ 15,906.00 (almost US\$ 274.00). The Gini index for 2023 was 0.378. However, if we look at the monetary poverty indicator for 2023, this corresponds to 23% of the population. Regarding the sex distribution of people living in monetary poverty, 21.8% are men and 24.1% are women.
18. **Human Development Index:** The HDI is the geometric average of the calculated indices of health, education and income. In 2016<sup>13</sup>, the country had a value of 0.522; however, the province of Puerto Plata obtained a value of 0.502, showing less relative development.
19. **Access to information technologies:** In 2022<sup>14</sup>, 91.7% of households used mobile phones and 47.8% had internet access (in the province of Puerto Plata, this value increased to 54.4%); however, the population aged 10 years and older who used the internet in the three months prior to the survey is 84.4% (in the province of Puerto Plata, this value decreased to 81.7%). The SIUBEN calculates the digital gap as the distribution of people from 7 to 65 years old, according to computer literacy, so in the country in 2019<sup>15</sup>, 55.2% of the people registered in the SIUBEN had no knowledge and another 39.1% had only basic knowledge. In Luperón and Villa Isabela, 72.4% and 74.9% of the population, respectively, had no or basic computer skills.

#### **b) Main economic activities (livelihoods)**

20. The Gross Domestic Product (GDP) of the DR in 2022, according to the World Bank<sup>16</sup>, was US\$ 113.54 million and the GDP per capita was US\$ 10,111, making it a middle-income country. The Cibao Norte region accounts for 15.3% of economic activity<sup>17</sup>. According to data from the Central Bank of the DR in 2022, the tertiary sector accounted for 59.8% of Gross Value Added (GVA), the secondary sector 34.9% and the primary sector 5.3%. For the Cibao Norte region, the agricultural sector contributes 5.4% of the GVA, manufacturing 17% and commerce, hotels and restaurants and transportation 28.7%. The following are the main economic sectors in the project area whose productivity is influenced by climate.
21. The tourism sector is very important for the economic activity of the coastal population in terms of the level of income and employment it generates. The tourism sector in 2019<sup>18</sup> was equivalent to 8.4% of the national GDP and had a 36.4% incidence of the country's income from exported goods and services. During the period 2010-2019, Foreign Direct Investment (FDI) destined to tourism reached the amount of US\$ 4,911.2 million, equivalent to 19.4% of the total received during these years. This sector contributes on average between 14% and 19% of the provincial product of Puerto Plata<sup>19</sup>. It also generates a lot of employment: by 2022<sup>20</sup>, 12.3% of total formal jobs were in the activities of accommodation and food services, transportation and recreational activities and of the registered companies, those engaged in the same services represent 10.2% for the country as a whole, 13% for Luperón and 21% for Villa Isabela<sup>21</sup>. The Tourist Pole of Puerto Plata is favored by sun and beach tourism and has an important infrastructure along the entire coast; it has 15% of the country's housing supply<sup>22</sup>; however, the municipalities of Luperon and Villa Isabela do not have a specific strategy to promote the development of the sector in the area to enhance its tourist attractions and also have limited investment in tourism services, with only 9 hotels, of which 4 are micro-enterprises, 2 are small, 1 is medium and 2 are classified as large, with between 30 and 50 employees<sup>23</sup>.
22. The prioritized work zone is located between two tourist poles, to the east the tourist pole of Puerto Plata or Amber

<sup>11</sup> For the estimation of per capita household income, the total household income is summed and divided by household members.

<sup>12</sup> Continuous National Labor Force Survey (“*Encuesta Nacional Continua de Fuerza de Trabajo*”) 2023 of the Central Bank of the Dominican Republic (“Banco Central de la República Dominicana”).

<sup>13</sup> Human Development Office, United Nations Development Programme (UNDP)

<sup>14</sup> National Multipurpose Household Survey (“*Encuesta Nacional de Hogares de Propósitos Múltiples*”, ENHOGAR) 2022. ONE

<sup>15</sup> III Socioeconomic Household Survey (ESH). Single System of Beneficiaries (SIUBEN).

<sup>16</sup> Available in: [World Bank national accounts data](#)

<sup>17</sup> Regional GDP results report for the DR 215-2022, Ministry of Economy, Planning and Development (“Ministerio de Economía, Planificación y Desarrollo”).

<sup>18</sup> Central Bank of the Dominican Republic (“Banco Central de la República Dominicana”, BCRD)

<sup>19</sup> Plan for the local economic development of the province of Puerto Plata (“*Plan para el desarrollo económico local de la provincia Puerto Plata*”), Ministry of Economy, Planning and Development (“Ministerio de Economía, Planificación y Desarrollo”), 2016.

<sup>20</sup> National Statistics Office (“*Oficina Nacional de Estadística*”, ONE), based on the Directory of Companies and Establishments (“*Directorio de Empresas y Establecimientos*”, DEE) 2021.

<sup>21</sup> Directory of Companies and Establishments (DEE) 2023. ONE

<sup>22</sup> Provincial Production Profiles for the Promotion of Exports and Attraction of Investment for Development (“*Perfiles Productivos Provinciales para la Promoción de las Exportaciones y la Atracción de Inversión para el Desarrollo*”), ProDominicana 2022

<sup>23</sup> Directory of Companies and Establishments (DEE) 2023. ONE

Coast, and to the west the tourist pole of Montecristi. The investments made in this area will only require a "no objection" from MITUR if the purpose of the investment is to provide tourism services. Since the territories covered by this proposal are protected natural areas (National Park and Marine Mammal Sanctuary), tourism activities must be aligned to these protected areas, and the MMARN, through its Vice Ministry of Protected Areas ("Viceministerio de Áreas Protegidas"), plays a key role.

23. In the province of Puerto Plata there is a relevant visitation coming from the cruise ports of Taíno Bay and Amber Cove with about 230,000 visits per year. The main consolidated tourist attraction in the area, Fricolandia, takes advantage of this visitation. This hotel-restaurant complex offers local and foreign visitors a leisure space on the coast, along with complementary packages to visit other attractions in the province within the Hispaniola National Park, the Estero Hondo Mammal Sanctuary and Cayo Arena.
24. In terms of infrastructure in the selected protected areas, both have infrastructure to facilitate interpretation activities. In March 2024, refurbished works were inaugurated in La Hispaniola National Park, with an investment of more than USD 2.87 million, and the electrical and sanitary installations were restored, as well as the bathrooms and canalization of the project's intervention area. In the Estero Hondo Marine Mammal Sanctuary, infrastructure will be built in 2022 to serve as an interpretation center for visitors. In both cases the works have the potential to serve as a support to revitalize the local economy, create jobs and new small businesses or community businesses, promote culture, education, and encourage investment in the community. To achieve this objective, it is necessary to develop programs with this approach, to be implemented as part of the visitation and use of the protected area and its infrastructure.
25. **Fishing** is a highly developed sector in the project area. In 2019<sup>24</sup>, there were 14,929 people engaged in fishing (8.9% women) throughout the country, of which 56% had a boat and the rest did it by swimming or on foot. The province of Puerto Plata registered 17.8% of these fishermen, of which, in the municipalities of Luperón there are 760 fishermen (17.9% women) and in Villa Isabela 104 (no women). Aquaculture fish production is an emerging industry in the country; between fishing and aquaculture, between 18,000 and 20,000 tons are produced, of which about 15% come from aquaculture. According to estimates by the Dominican Aquaculture Association ("Asociación Dominicana de Acuicultores", ADOA), there are about 150 aquaculture farms in the country dedicated to tilapia, shrimp, pacu and carp farming<sup>25</sup>.
26. The **agricultural sector** is also important in the project area. It contributes a tenth of the provincial production<sup>26</sup>. In terms of agricultural production, in 2015<sup>27</sup> there were 12,276 productive units in Puerto Plata, occupying 52% of the provincial territory, with a production area of 95,758 ha. Of these productive units, 14% are located in Luperón and 19% in Villa Isabela, while 7% of the productive hectares are concentrated in Luperón and 21% in Villa Isabela. The main agricultural products in the study area are cassava, corn, sweet potato, pumpkin, green beans, lima beans, lemon, banana and tobacco. The livestock sector is oriented towards the production of pigs, cattle and goats.

### c) **Key ecosystems**

27. The Estero Hondo Marine Mammal Sanctuary occupies a total area of 32.55 km<sup>2</sup>, of which 68.88% is terrestrial and 31.12% is marine (Sánchez, 2023). Its main objective is to protect marine mammals and the ecosystems on which they depend for their survival. Hispaniola National Park has a total area of 54.77 km<sup>2</sup>, of which 50.08% is terrestrial and 49.92% is marine. Of this extension, 47.62% of its surface corresponds to the municipality of Luperón and 7.44% to the municipality of Villa Isabela. Its main objective is to protect the cultural and archaeological heritage found in this area, as well as the environmentally sensitive ecosystems.
28. The marine portion is characterized by the presence of **coral reefs** parallel to the coast in both the western and eastern parts of the study area. **Marine mammals** such as dolphins and whales are frequently sighted using this area as a resting area, while sea turtles and manatees can be observed feeding between the wetland and marine areas.
29. Moving towards the coast, where the incidence of sunlight is greater, there are **seagrass meadows, rocky environments** in the intertidal zone and **fish** communities associated with the most productive ecosystems in the area, coral reefs, seagrasses and mangroves. At the limit of the terrestrial portion is the beach zone, which extends throughout the study area. The extension of the dry beach is not very wide; in most of the area it is between 10 and 15 m wide, with occasional exceptions where it reaches 30 m and, in some sections, it is interrupted by **mangrove** forests and rocky promontories that reduce its size. Mangroves are found bordering the wetlands throughout the study area, associated with the beaches and wetlands. In Estero Hondo they border the entire wetland, while in La Hispaniola there is a forest of approximately 2 km associated with the mouth of the Bajabonico River parallel to the coast. In the beach area there is characteristic coastal vegetation, stunted and homogeneous (low height and low species diversity) such as Icaco (*Chrysobalanus icaco*), beach grape (*Coccoloba uvifera*), and Guayacán (*Guaiaicum officinale*). The dunes located behind the dry beach are less than one meter high in some sectors. They

<sup>24</sup> I National Fishing Census ("I Censo Nacional Pesquero"). ONE

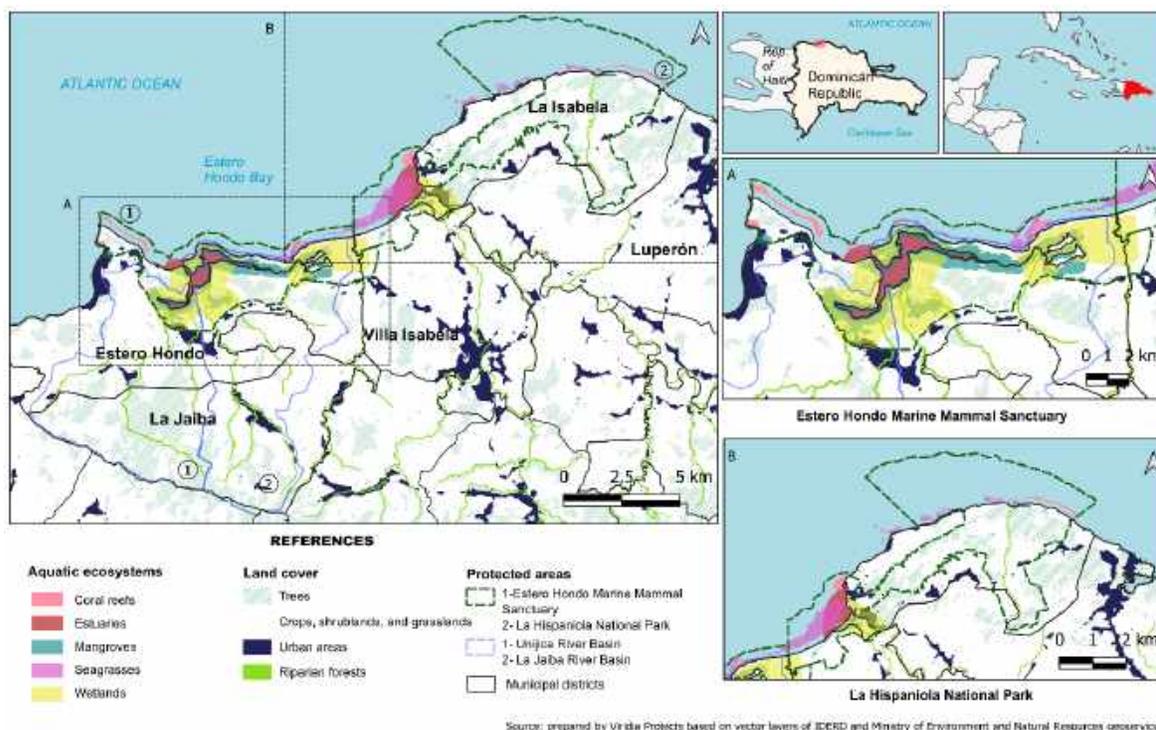
<sup>25</sup> <https://www.elcaribe.com.do/destacado/republica-dominicana-solo-produce-el-20-del-pescado-que-consume/>

<sup>26</sup> Plan for the local economic development of the province of Puerto Plata ("Plan para el desarrollo económico local de la provincia Puerto Plata"), Ministry of Economy, Planning and Development, 2016.

<sup>27</sup> National Agricultural Precensus ("Precenso Nacional Agropecuario") 2015. ONE

are more visible in the area of the Estero Hondo Mammal Sanctuary with characteristic dune vegetation of creeping succulent or vine-like species that act as sand traps against wind erosion.

Figure 3. Map of key ecosystems.

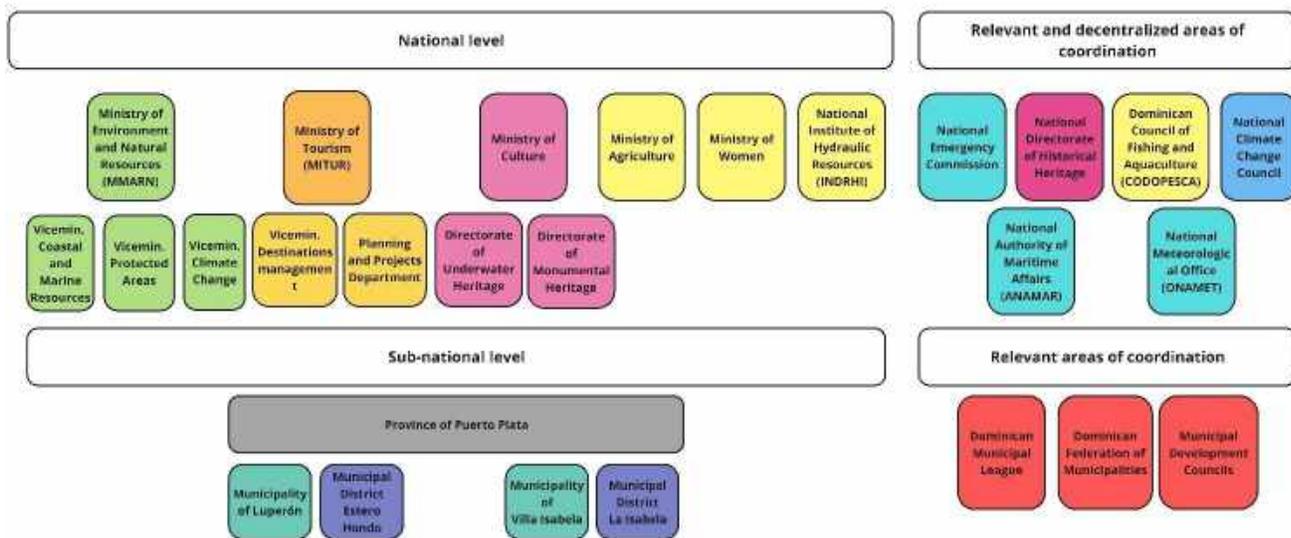


30. The coastline is characterized by the presence of important rock formations among which **cliffs and coastal caverns** stand out. In Estero Hondo they are represented by the Cerro de Burén and Punta de Estero Hondo, which are rock formations of caverns of singular beauty: some are located far from the sea, surrounded by dry forest and coastal vegetation, while others are in direct contact with the sea. The fauna associated with these environments is not usually very diverse but is characterized by the adaptations it has to survive adverse conditions of waves, temperature and solar incidence, among others.
31. In La Hispaniola National Park there is a 7 km long rocky **outcrop** parallel to the coast (López, 2019; Oviedo, 2023) called La Pared with cavernous formations, formed by reef limestone generated in the Pleistocene. It is a rock formation of unique beauty where the dominant vegetation is secondary forests that grow in the middle and upper part of the cliffs and there is a remnant of primary forest that is in good condition. Due to the diversity of tree strata associated with this ecosystem, the resident fauna is very diverse.
32. There are important **wetlands** from west to east of the study area starting with the Estero Hondo wetland, which is a body of brackish water thanks to freshwater inputs from the Encantamiento, Soliman, Estero Hondo and La Jaiba rivers, which flow from the Unijica and La Jaiba basins. Although it is protected by a sandbank covered with mangroves, it has direct contact with seawater through an estuary, so the salinity ranges from absolutely marine outside the estuary to sweeter in the innermost part of the estuary acting as a coastal lagoon.
33. This ecosystem has the natural characteristics for the development of the **Antillean manatee** (*Trichechus manatus manatus*), which feeds on the seagrass meadows that grow on the sediment of the wetland, where they are protected from the waves by the morphology of the area in the form of a bay and the lush mangrove forest that surrounds it and acts as a protective barrier. In addition, the tributaries that reach the estuary are used by this species as a source of fresh water, which they need to drink in order to survive.
34. On the eastern edge, in the flood zone of the estuary, are the wetlands of Sabana Pescao and Corto Pies, and further east, just before the mouth of the Bajabonico River, is the Colés Lagoon, a wetland surrounded by mangroves. The Bajabonico River is the most important river in the province of Puerto Plata, and its estuary forms the second most important estuary in the study area.
35. **Riparian forests** are found in the upper Unijica and La Jaiba basins, which border the freshwater bodies of La Ciénaga, Los Pilones, and Caño Miguel, in addition to those already mentioned that drain into Estero Hondo. In Hispaniola National Park, they are located around the Bajabonico River and La Culebra Creek. The latter is a body of water with very little human contact that flows into Brivala Beach, so its riparian forest is in very good condition.
36. The natural characteristics of the study area and its diversity of ecosystems harbor many **native and endemic**

**species** of Hispaniola. In Estero Hondo, 82.22% of the plant species are native and 6.66% are endemic. Of the reptiles, 55% are native and 45% are endemic, representing 5% of the country's endemic reptiles. Five percent of the country's endemic amphibians are found in this area and 17% of the birds are endemic. In Hispaniola National Park, 16% of the species are endemic, with 80% of the plants being native and 16% endemic. Two endemic mammals stand out: the hutia (*Plagiodontia aedium*) and the solenodon (*Solenodon paradoxus*). Eleven percent of the birds and 12% of the reptiles are endemic. In the marine zone, there are manatees and sea turtles, species native to Hispaniola. The study area includes endangered species such as the Hispaniolan giant gecko (*Aristelliger lar*), the Hispaniolan eyespot sphaero (*Sphaerodactylus difficilis*), the Central Antillean slider (*Trachemys stejnegeri*), four species of sea turtles (*Dermochelys coriacea*, *Caretta caretta*, *Chelonia mydas* and *Eretmochelys imbricata*), the manatee, numerous fish and marine invertebrates, 32 species of vegetation (23 native and 9 endemic) and 57 species of birds, 6 of which are endemic.

**d) Governance in the project area**

37. This section describes the key governmental and non-governmental stakeholders for the project and identifies those that should be considered to improve governance in the scope of work.
38. **Key governmental actors:** There are three levels of government in the Dominican Republic: the national government, which comprises the country's central institutions whose decisions at this level affect the entire national territory, the regional government represented by the country through the provincial governorships for administrative and planning purposes, and finally the municipal government which is composed of the municipalities and municipal districts. Each municipality and municipal district have their own city council, which is responsible for local administration. The city councils are headed by mayors (trustees) and have rulers (councilors) who are elected by popular vote.
39. Despite the existence of the National District and Municipalities in the Dominican Republic Law No. 176-07, which grants them the responsibility and role of ordering their territory, the budgets and capacities of municipal governments for these purposes are considerably limited. Given this reality, it is common for sectoral institutions to establish rules and guidelines from the national level for their sectors, with reduced participation and autonomy of local governments in decision-making. As a result, they do not always reflect local realities.
40. The MMARN is the entity responsible for the protection and sustainable management of the environment and natural resources in the Dominican Republic. Through the Vice-Ministry of Protected Areas, it oversees the management and conservation of the country's protected areas. Both La Hispaniola National Park and the Estero Hondo Marine Mammal Sanctuary have management plans that are currently being revised/updated. In the case of the Sanctuary, there is also an ongoing process to design and implement a co-management mechanism for the protected area, centered in the Estero Hondo community.
41. **Figure 4.** Key governmental actors of the project and relevant to the project: *Ministry of Environment and Natural Resources (MMARN), Ministry of Tourism (MITUR), Ministry of Culture, Ministry of Agriculture, "Ministerio de Agricultura", National Directorate of Historical Heritage ("Dirección Nacional de Patrimonio Histórico"), National Directorate of Fisheries and Aquaculture ("Dirección Nacional de Pesca y Acuicultura", CODOPESCA), Dominican Municipal League ("Liga Municipal Dominicana", LMD), Dominican Federation of Municipalities (FEDOMU), Municipal Development Councils ("Concejos Municipales de Desarrollo", CMD).*



42. MITUR is responsible for the promotion and development of tourism in the Dominican Republic. Through its Vice-Ministry of Destination Management, it ensures that tourist destinations meet quality and sustainability standards. No tourism strategies have been developed or implemented for the study area. Tourism management in protected areas is delegated to MMARN and its ecotourism division (under the Vice-Ministry of Protected Areas). There are initiatives in the region that could serve as a reference to promote community-based tourism initiatives in the study area.
43. The Ministry of Culture plays a key role in the management of La Hispaniola National Park, since through it, and in coordination with the National Directorate of Historical Heritage as a decentralized entity, policies and programs for the conservation of historical sites and cultural property are implemented. Currently, the ruins of La Isabela are in the evaluation process to obtain the title of World Heritage Site by UNESCO.
44. The Ministry of Agriculture is present due to the agricultural activities, and in coordination with CODOPESCA, the management and regulation of fishing and aquaculture in the country, as well as the promotion of responsible and sustainable fishing practices and the development of aquaculture as a productive sector.
45. Other institutions relevant to the nature of this project are the Ministry of Women, the National Council on Climate Change (“Consejo Nacional de Cambio Climático”), and the National Emergency Commission (“Comisión Nacional de Emergencias”).
46. **Key non-governmental actors:** At the local level, there is a civil society group, mainly made up of women, organized in Estero Hondo. There is also an organization of tourist guides in the community of Estero Hondo that has joined the initiatives for the protected area to have a community-based co-management scheme. In the fishing sector, fishermen are an important group that is not formally organized.
47. Despite the limited number of groups and associations identified, there are permanent areas of participation contemplated by Dominican law. One of these spaces are the Municipal Development Councils, where social organizations converge with government institutions and academia.
48. In the case of La Hispaniola National Park, for example, the Spanish Agency for Development Cooperation (AECID) has collaborated in actions to improve and facilitate visitation of this protected area. In the case of Estero Hondo, for example, the Dominican Foundation of Marine Studies (“Fundación Dominicana de Estudios Marinos”, FUNDEMAR) is present and carries out periodic monitoring and censuses of manatees as part of a nationwide project.

#### e) Climate context

##### Observed climate

49. Located in the Caribbean, the Dominican Republic enjoys a tropical climate with rainy seasons. Due to its orography and the influence of the trade winds, there are several microclimates<sup>28</sup>. For the study area, the 2 climates registered are: a. Subhumid tropical regime with contrasting seasons (TsHEC) and b. Dry tropical regime with contrasting seasons (TSEC). There is a slight variation between their characteristic mean annual temperatures (a. 25°C and 27°C and b. 26.5°C and 29°C) and a marked difference between their pluviometric regimes.
50. **Temperature:** On the north coast, most of it shows a regular temperature range that oscillates between 26°C/28°C with exceptions in the area of the Bay of Luperón where the average temperature is 25°C. This phenomenon is due to a particular convergence of winds in the central sector of the foothills of the Northern Cordillera, caused by the entrapment of the trade winds in the Bajabonico River basin and by the local “hillside-valley” effect; the intra-annual temperature oscillation for the entire study area is 4°C<sup>29</sup>.
51. Historical analysis observed between 1960 and 2018<sup>30</sup> indicates a **decrease of up to 20% in cold days, increase of between 10% and 20% in the frequency of warm days/hot waves and 20% in the frequency of hot nights**.
52. With regard to sea surface temperature, an increase of 0.6°C has been recorded over the last 30 years (period 1990 to 2019).
53. **Precipitation:** In the area of **Hispaniola National Park** in the vicinity of Luperón and Villa Isabela, the pluviometric regime corresponds to the *Subhumid tropical regime with contrasting seasons* (TsHEC) and is characterized by **precipitation peaks in May and October** with an annual accumulated precipitation volume between **800-1200 mm**. Towards the west, **the climate becomes more arid**, as is the case, for example, in the **Estero Hondo** area. The classification that corresponds to this area is the *Dry tropical regime with contrasting seasons* (TSEC) which also presents precipitation peaks in May and October with a total accumulated annual precipitation between **400-800 mm** with the **presence of seasonal drought** of approximately **1-2 months**<sup>31</sup>.
54. Analyzing the periods between 1988 and 2018 for the precipitation regime, the north coast has presented a **total**

<sup>28</sup> Climate description of the Dominican Republic by the Global Foundation for Democracy and Development with data from the National Meteorological Office of the Dominican Republic (“Oficina Nacional de Meteorología de República Dominicana”, ONAMET)

<sup>29</sup> DAI Study 2022- Study of the risk of climate change in coastal areas.

<sup>30</sup> Ibidem

<sup>31</sup> Ibidem

**annual decrease of between 11% and 25%.** Regarding the analysis of daily precipitation, there has been an increase of 14 mm and an **increase of 7% in the number of days with accumulated precipitation greater than the 95th percentile**<sup>32</sup>. This is related to the increase in extreme events, which in the Dominican Republic increased from almost one average event per year in 1980-1999 to two per year in the period 2000-2021.<sup>33</sup>

55. In recent years, the province of Puerto Plata has faced a severe drought, considered one of the worst in 20 years<sup>34,35</sup>. This situation has been exacerbated by the significant decrease in rainfall, with records showing for example that in February 2019 rainfall was 52% below expectations,
56. **Sea level:** The Caribbean Sea has experienced an average sea level change of 1.7 mm/year (+/-1.3) during the period from 1993 to 2010<sup>36</sup>.
57. **Cyclonic storms and hurricanes:** In the Caribbean Sea basin, the **cyclone season runs from June to November**, with peaks of activity between mid-August and the end of October, the most intense months for the Dominican coast. However, cyclonic storms can occur at any time during the season and even outside of the season<sup>37</sup>. Approximately 10 tropical storms form over the Atlantic Ocean, the Caribbean and the Gulf of Mexico per year. **According to historical data from the 20th century, of the hurricanes that reached the Caribbean area, 42% made landfall.**
58. During the period studied, between 1981 and 2021, 42 tropical storms were recorded, and up to 6 per municipality<sup>38</sup>.

### Projected climate

59. In order to visualize the **projected climate for the years 2030, 2050 and 2070** based on historical information on **precipitation** (maximum amount accumulated in one day) and **temperature** (number of hot days), the following projections were made according to the RCP 8.5 scenario of the MPI-ESM-LR (MPI) model. The RCP 4.5 scenario was also used for the **sea level rise** analysis.
60. **Temperature:** For mean temperature change, the models show an increasing trend in values between **1°C and up to 3°C** by 2050, and values of change greater than **2°C and up to 6°C by 2070**<sup>39</sup>. For the increase in hot days/heat waves, the analysis projects an increase of between 24% and 90% by the end of the analysis period (RCP 4.5) and between 58% and 100% in the RCP 8.5 scenario.
61. As for the **sea surface temperature**, the **RCP 4.5** scenario shows an increase of +2°C, reaching a temperature slightly below 28°C by 2070. In the case of the RCP 8.5 scenario, the projected increase is **+1.5°C**, but reaches a temperature of 28.5°C by 2070.
62. **Precipitation:** Future climate scenarios were based on historical climate data for the Dominican Republic provided by the National Meteorological Office (ONAMET) and analyzed by experts from the Water Center for the Humid Tropics of Latin America and the Caribbean ("Centro del Agua del Trópico Húmedo para América Latina y el Caribe", CATHALAC). The conclusions of these studies indicate that **total annual precipitation would decrease by an average of 15% at the national level by 2050**. By **2070**, this value would worsen to a **decrease of 17%** compared to the baseline average (1960-2000). According to the NDC 2021 of the Dominican Republic, the consistency of the results between models under a radiative forcing of 8.5 W/m<sup>2</sup> is 87%.
63. The southern and western regions of the country will be the most affected by the decrease in precipitation by 2050 and 2070, while the eastern and northern regions could register even small positive changes<sup>40</sup>. Beyond the 2070 horizon, a nationwide decrease is expected.
64. In the case of areas where seasonal drought occurs, **it is expected that the period of relative drought between July-August could be more intense**. It is particularly interesting to note that *"At the point level and under any type of radiative forcing, the models coincide mostly in a decrease in total rainfall of up to 50% with respect to historical values in the provinces of Independencia, Puerto Plata, San Juan and Santiago"*<sup>41</sup>.
65. **Sea level:** On average, for the entire period from 2020 to 2070, an **increase of 0.14 m** is expected under the **RCP 4.5** scenario, while for **RCP 8.5 an increase of 0.16 m** is projected.<sup>42</sup>
66. **Cyclonic storms and hurricanes:** Regarding cyclonic storms and hurricanes, although the results are not conclusive due to their high variability<sup>43</sup>, they seem to indicate a decrease towards the end of the century in quantity, but an **increase in intensity and frequency of category 4 events** (winds between 209-251 km/h) **and 5**

<sup>32</sup> Ibidem

<sup>33</sup> [Economic and Development Report \("Reporte de Economía y Desarrollo" \(RED\)\) 2023. CAF](#)

<sup>34</sup> [Note infobae](#)

<sup>35</sup> [Note 2019 Listin Diario newspaper](#)

<sup>36</sup> WHO, PAHO UNCCD, Health and climate change: country profile 2021: Dominican Republic

<sup>37</sup> DAI 2022- Study of the risk of climate change in coastal areas.

<sup>38</sup> Ibidem

<sup>39</sup> Ibidem

<sup>40</sup> WHO, PAHO UNCCD, Health and climate change: country profile 2021: Dominican Republic

<sup>41</sup> NDC 2021 Dominican Republic

<sup>42</sup> DAI Study 2022- Study of the risk of climate change in coastal areas.

<sup>43</sup> ["Dominican Republic: Climate and Development Report"](#) World Bank, 2023

(winds above 252 km/h)<sup>44</sup>. On the other hand, the WB report on Climate and Development in the DR indicates under RCP 8.5 that an increase of +0.5 m is projected for 2050 and an average of +0.6 m for 2069.<sup>45</sup>

67. **Marine climate hazards:** In the Caribbean, the physical effects or hazards of climate change include increased sea surface temperature, increased extreme weather events, changes in precipitation patterns, sea level rise and flooding, and ocean acidification, in addition to other factors (CEMEP 2021).
68. Monnereau et al. (2015) compared the **exposure of the fisheries sector** in different Caribbean countries based on parameters such as sea level rise, sea surface temperature change and ocean acidification. It was reported that both the islands of the Greater Antilles, which includes the Dominican Republic and the main arc of the Lesser Antilles, are experiencing the **highest levels of hazard exposure**.

### Observed impacts

69. The Dominican Republic is among the countries most exposed to natural disasters<sup>46</sup>. The analysis of the critical points of vulnerability to climate change shows that 13 provinces have high to very high levels of vulnerability<sup>47</sup>. **Puerto Plata** is one of the provinces with **high risk**.
70. **Key vulnerabilities** include: i) **exposure to extreme events**; ii) **the impact of rising ocean temperatures on coral reefs, with implications for coastal protection, tourism and fisheries**; iii) **sea-level rise with impacts on coastal infrastructure and communities**, and iv) **changes in precipitation cycles**<sup>48</sup>.
71. Among the aforementioned impacts, the impact on water resources is one of the main problems due to the **challenges** that the Dominican Republic faces in managing its **water resources**. "Water scarcity is a regional problem resulting from poor management of water resources, urban water supply and tourism infrastructure in the driest regions of the country. Pollution and degradation in upper basins contribute significantly to the degradation of coastal basins, adding to local pressures from the tourism industry in these areas. Poor basin management leads to soil erosion and increases the damage caused and the frequency of flooding. **Since 1980 the rate of erosion has increased by a factor of 4**<sup>49</sup>.
72. The **drought** has severely affected water levels in reservoirs and rivers. This in turn has had a **significant impact on agriculture, water availability and the local economy**. The lack of rainfall has negatively affected crops, **reducing yields and increasing animal mortality**, causing economic losses for farmers and ranchers<sup>50</sup>. In addition, the decreased availability of drinking water has created additional challenges for local communities, limiting access to this vital resource and affecting the quality of life of residents. These droughts have also increased the **region's vulnerability to forest fires**, further exacerbating environmental and economic issues.
73. Anthropogenic activities coupled with climate change exacerbate impacts on natural ecosystems. Certain activities such as unsustainable tourism include impacts such as "*overexploitation of groundwater, destruction of forest cover and overfishing of corals and marine species*"<sup>51</sup>. This, combined with **increased periods of drought** (water scarcity) and rising **temperatures** (coral bleaching), amplifies the impacts and pressures on ecosystems, increasing their vulnerability.
74. In terms of **extreme weather events**, the **average annual loss (AAL)** from hurricanes to the country's buildings as a whole is estimated at US\$ 345 million (**0.48% of GDP**).<sup>52</sup>

### Projected impacts

75. The impacts projected in the 2017 USAID study<sup>53</sup> for the 2050-2070 horizon present results in 5 main areas: in coastal areas (1), areas dedicated to tourism would be affected. In turn, there would be an increase in the salinization of aquifers. Other significant impacts include **beach erosion and loss of fish habitat** and, consequently, fishing areas. The **quantity and quality of available water would be reduced (2)**, generating an additional **impact on the agricultural sector**, (3) where more pests and diseases, soil erosion and damage to crops and livelihoods are projected, and on the **health sector** (4) increased food insecurity and an increase in water- and vector-borne diseases. **Loss of ecosystem and forest diversity** (5), as well as increased erosion on hillsides is also projected.
76. It has been estimated that by 2050, the coastal zones of the Dominican Republic could experience an average sea level rise of +0.5 meters (in the RCP 8.5 scenario) and, by 2069, an average of 0.6 meters (RCP 8.5 scenario). **As**

<sup>44</sup> PAHO UNCCD, Health and climate change: country profile 2021: Dominican Republic

<sup>45</sup> Information referenced to the "Análisis de riesgo ante el cambio climático" by Plenitud Foundation, DAI SPRL and IRMA.

<sup>46</sup> "World Bank supports Dominican Republic to be better prepared for disaster risks" World Bank, 2022.

<sup>47</sup> "Climate Change in the Dominican Republic ("El Cambio Climático en la República Dominicana)", National Council on Climate Change DR.

<sup>48</sup> "CLIMATE CHANGE AND THE DOMINICAN REPUBLIC (EL CAMBIO CLIMÁTICO Y LA REPÚBLICA DOMINICANA)", Walter Vergara and Seraphine Haeussling, MEPYD.

<sup>49</sup> "Climate Change in the Dominican Republic ("El Cambio Climático en la República Dominicana)", National Council on Climate Change DR.

<sup>50</sup> "Sequía sigue causando muerte de ganado en Puerto Plata, ríos están secos y la agricultura marchita (Drought continues to cause livestock deaths in Puerto Plata, rivers are dry and agriculture withered)", El Día newspaper, March 2029; "Más de 4 mil tareas cultivadas de maíz se dañaron en la comunidad Las Paredes del municipio de Luperón, en la parte oeste de Puerto Plata debido a la falta de lluvias (More than 4 thousand cultivated corn fields were damaged in the community of Las Paredes in the municipality of Luperón, in the western part of Puerto Plata due to the lack of rainfall)", El Nacional newspaper, February 2023.

<sup>51</sup> "Climate Change in the Dominican Republic ("El Cambio Climático en la República Dominicana)", National Council on Climate Change DR.

<sup>52</sup> "Dominican Republic: Climate and Development Report" World Bank, 2023.

<sup>53</sup> 2017, USAID CCIS, Climate Risk Dominican Republic.

**a consequence of this sea level rise, coastal erosion, ecosystem impacts, population displacement, pollution and water supply interruptions are expected to worsen.**<sup>54</sup>

According to modeling done for the report "[Dominican Republic: Climate and Development Report](#)" World Bank, 2023, **climate-induced GDP deviations** from the baseline scenario could reach **16.7% of GDP in 2050** (The baseline scenario is a projection to the year 2050 without any damage from climate change)<sup>55</sup>.

#### **Impacts on the population**

77. The various climate hazards facing the project site significantly affect the quality of life and health of the coastal population, as well as their livelihoods. These threats have serious socioeconomic repercussions for the local economy, including losses in income and jobs, forcing many to migrate.
78. **Heat waves** have negative impacts on human health, affecting both residents and tourists. Vulnerable groups, such as the elderly, children, pregnant women and people with chronic diseases, as well as those who work outdoors, are especially affected. Derived **health problems** include heat stroke, dehydration, and aggravation of chronic conditions such as cardiovascular and respiratory diseases. In addition, heat **stress** impacts workers in the agricultural and service sectors by increasing temperatures during the workday and decreasing effective working hours. **Labor productivity** in these three sectors is expected to decline over time, resulting in a labor supply shock ranging from -3.5% to -9% by 2050<sup>56</sup>. Finally, the tourism industry is also affected by **increased energy demand** for refrigeration and air conditioning, which can overload electrical systems, cause blackouts and affect industrial production.
79. The **decrease in precipitation** prolongs periods of drought and, together with the increase in temperatures, aggravates **water security**. This has serious consequences for the **quality of life** due to the lack of water for domestic consumption and the **quality of tourist services**. However, the new aqueduct work being carried out by State Public Works ("Obras Públicas del Estado") in the area will cover the provision of water for the population's consumption.
80. **Drought** not only reduces the amount of water, but also has an **erosive effect** on the soil with a **desertification** effect that is accelerated by the frequent occurrence of maximum rainfall events (associated with hurricanes and sporadic storms). This reduces the quality of productive soils and directly affects agricultural, livestock and fishing productivity. The reduction in agricultural production negatively impacts prices, trade and market access, reducing income and employment in this sector, and jeopardizes community **food security**, as crop irrigation and the supply of water and feed for livestock and fisheries are affected<sup>57</sup>. According to the National Drought Plan (MMARN, 2018<sup>58</sup>), the sector most affected in periods of drought, even if not severe, is agriculture, especially livestock, as milk production drops by more than 50% of normal production. In the northern region, the loss of 1,250 hectares of corn, representing 70% of the total planted area, was reported by December 2013, as well as a reduction in the cocoa harvest and the death of livestock. In 2014, the drought affected an area of 800 hectares<sup>59</sup>, impacting coconut, banana, cassava, sweet potato, among other crops. In addition, the decrease of water in tube wells has increased production costs in poultry farms and the reduction of water in livestock ponds, along with the shortage of pasture, has decreased the quality of milk. Although the impact of drought on populations and agricultural production is increasing, the resources and comparative information needed to quantify the phenomenon are lacking. During the community consultation, the population highlighted the lack of rainfall in the area for years.
81. In turn, coastal erosion and the advance of saline intrusion, a consequence of rising sea levels and increased frequency and intensity of hurricanes and storms, together with rising sea surface temperatures and ocean acidification, damage coastal habitats such as mangroves and coral reefs, which are crucial for marine and coastal biodiversity and, consequently, for **fisheries**. Thus, around 860 fishermen and fisherwomen in the project area see their livelihoods affected by a decrease in marine biodiversity.
82. On the other hand, coastal erosion causes the loss of natural and historical heritage and coastal infrastructure, diminishing tourist attraction and directly affecting the income of those who depend on the coastal tourism industry, including "sun and beach" tourism, cruises, adventure tourism, ecotourism, and cultural tourism. Many economic sectors are highly dependent on **tourism**, and any decline in activity in this sector can have significant and negative consequences for the **local economy**, threatening numerous **jobs**, not only in direct tourism activities, but also in related sectors. According to the World Bank, disruptions caused by the increased frequency and magnitude of extreme events are expected to reduce tourism revenues from 7% to 16% by mid-century<sup>60</sup>. Likewise, the loss of land and natural resources can affect **cultural identity and social cohesion** of the community.

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<sup>54</sup> "Dominican Republic: Climate and Development Report" World Bank, 2023.

<sup>55</sup> Ibidem

<sup>56</sup> The Dominican Republic Country Climate and Development Report (CCDR), World Bank, 2023

<sup>57</sup> The Outlook for Agriculture and Rural Development in the Americas: a look at Latin America and the Caribbean 2021-2022 ("Perspectivas de la Agricultura y del Desarrollo Rural en las Américas: una mirada hacia América Latina y el Caribe 2021-2022"), ECLAC 2021.

<sup>58</sup> National Drought Plan, Ministry of Environment and Natural Resources ("National Drought Plan, Ministry of Environment and Natural Resources", MIMARENA) Santo Domingo, Dominican Republic, 2018.

<sup>59</sup> Ibidem

<sup>60</sup> The Dominican Republic Country Climate and Development Report (CCDR), World Bank, 2023

**Figure 5.** Major hazards and impacts in the project area.



## Impacts on infrastructure

83. As explained above, erosion phenomena together with the rise in sea level threaten the country's historical heritage. An example of this is the historic buildings of La Isabela National Park where coastal erosion threatens the stability of the buildings and some have already been lost.

**Figure 6.** Admiral's House in La Isabela National Park. *Google Earth aerial view from December 2023 (left) and photo taken in April 2024 during the proposal origination mission (right). Approximately one-third of the house enclosure has collapsed due to coastal erosion.*



## Ecosystem impacts

84. Coastal and marine ecosystems are interrelated and suffer chain impacts when one of their elements is affected. Climate change will alter their productivity and the goods and services they provide. In the study area, sensitive ecosystems are already being impacted by climate hazards.
85. The drought caused by the increase in atmospheric temperature, which in turn causes a reduction in average precipitation, has resulted in the reduction of freshwater tributaries that reach the estuaries, affecting the manatee, a species that, despite being a marine mammal, needs to drink freshwater for its subsistence. Likewise, when the water balance of the estuary is altered, it becomes salinized and the species suffer, producing an increase in marine species and a reduction in freshwater species (Bindoff, et al, 2019). The forests are also affected by the reduction of rainfall including mangroves that die due to excessive desiccation and heat waves or because they require different salinity gradients in the water they receive (Bindoff, et al, 2019). The decrease in freshwater inflows also affects the coastal sediment balance as it stops receiving fluvial sediment inputs that contribute to the beach erosion process.
86. Higher atmospheric temperatures produce an increase in the frequency and intensity of extreme precipitation and hurricanes, which brings with it diverse impacts to coastal and marine ecosystems such as: landslides that reach the sea affecting coral reefs, wetlands and estuaries; storm waves that reach the coast with greater heights due to sea level rise and cause beach erosion, structural damage to coral reefs and seagrasses and in some cases mangrove (Bindoff, et al, 2019) which reduces the effectiveness of these ecosystems in protecting the coast increasing the vulnerability of the coastal zone to erosive processes (Third Communication on Climate Change, 2017; USAID, 2017). Sea turtles are severely impacted by increased temperatures in their nests, as this determines the sex of hatchlings (Bindoff, et al, 2019). Heat waves can cause biodiversity losses in rocky environments and affect seagrasses and mangroves (Bindoff, et al, 2019; Peace and Chamber, 2016).
87. Sea level rise caused by rising ocean temperatures and polar deglaciation causes inundation of low-lying areas (Third communication on climate change, 2017) with the consequent loss of beach area (Third communication on climate change, 2017; USAID, 2017) which affects coastal vegetation causing its roots to be exposed and usually end up falling which in turn contributes to erosive processes (Peace and Chamber, 2016, Third communication on climate change, 2017; Bindoff, et al, 2019). These losses of dry beach affect the nesting of seabirds and sea turtles, the latter return each year to nest on the same beach where they were born increasing their vulnerability to extinction due to loss of nesting areas. The inundation of low-lying areas causes the disappearance of wetlands, mangroves and reduction of estuarine areas which affects many organisms associated with these spaces, such as fish, birds and invertebrates (Peace and Chamber, 2016, Third communication on climate change, 2017; Bindoff, et al, 2019). **Sea level rise** causes changes in the incidence of sunlight due to changes in depth which **affects seagrasses and corals** living closer to shore and all associated organisms (Third communication on climate change, 2017; Peace and Chamber, 2016). Forests can be impacted by the intrusion of saline crust produced by sea rise causing salinization of soils, this coupled with extreme drought can cause desertification (Third communication on climate change, 2017).
88. The increase in sea temperature causes **changes in species stratification** and changes in **ocean upwelling which results** in the **alteration of food webs**, which can influence the migration of fish, mammals and seabirds (USAID, 2017; Bindoff, et al, 2019). **Coral reefs are severely affected** by rising ocean temperatures (USAID, 2017) which can cause their death of symbiotic zooxanthellae and consequently the **death of coral** which gradually causes the death or habitat loss of the rest of the organisms associated with this rich ecosystem (Third communication on climate change, 2017; Hoegh-Guldberg, 2014). The warming of seawater decreases the

solubility of gases in the water creating hypoxic or low oxygen zones that change the distribution of species and the death of many others.

89. The increase of dissolved carbon dioxide in seawater from the atmosphere results in ocean acidification, which mainly affects the absorption of calcium carbonate by calcareous organisms such as corals, algae, calcareous microalgae and mollusks (Peace and Chamber, 2016). **Acidification of seawater decreases the growth of coral reefs**, affecting the productivity of the ecosystem and decreasing the input of coral sands to the coast which exacerbates coastal **erosion**. Seawater acidification coupled with marine hypoxia exacerbates the sensitivity of organisms to rising sea temperatures (Bindoff, et al, 2019; Peace and Chamber, 2016).
90. The native and endemic species of the country are especially sensitive to the changes generated by climate change, they are species specifically adapted to the conditions of their habitat and their resilience to the impacts generated by climate change is not very high, also the change in the stratification of species will allow the arrival of exotic species due to the increase in sea temperature (Bindoff, et al, 2019).

#### **f) Non-climatic drivers**

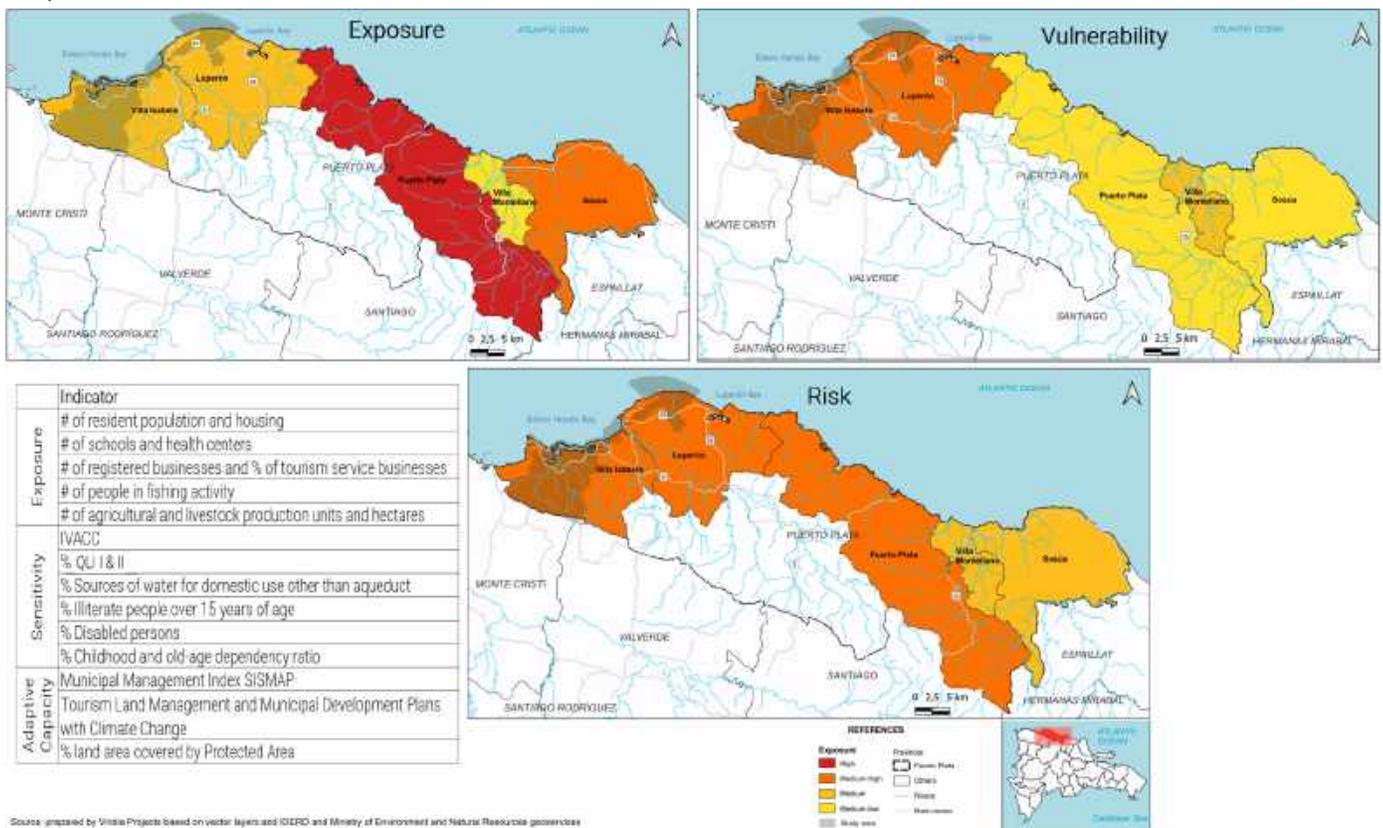
91. The most relevant non-climatic drivers identified in the areas of La Hispaniola National Park, the Estero Hondo Marine Mammal Sanctuary and the municipalities to which they belong are listed below:
92. **Pollution from fishing boats:** In La Hispaniola National Park and the Estero Hondo Marine Mammal Sanctuary, fishing boats in poor condition, due to inadequate maintenance, leak fuel and oil, contaminating the waters. Impacts: i) water quality; ii) death of marine organisms; iii) human health; iv) tourism: pollution reduces the attractiveness of tourism and affects the local economy.
93. **Anchoring that damages the seafloor:** The lack of regulation and zoning of anchoring of fishing and tourist vessels damages the seafloor, destroying coral meadows and reefs. This affects marine habitats and their biodiversity, including parrotfish habitat, key to ecosystem stability and sand production; and ecosystem services, reducing coastal protection and sustainable fisheries.
94. **Dumping:** In the Bajabonico basin and the Estero Hondo Sanctuary, chemical spills from 2 car washes, and dumping of untreated water from homes because there is no treatment plant in the sector and the septic tanks overflow during the rainy season, so this water ends up in the rivers and affects water quality and aquatic fauna. In the case of Estero Hondo Sanctuary, this affects marine species such as manatees, which need clean freshwater for consumption. Corals are also highly sensitive to disturbances caused by sediment and nutrient-laden turbid waters.
95. **Agricultural and livestock practices that deforest and pollute:** Agricultural and livestock practices that deforest and pollute. Deforestation in the upper reaches of the Bajabonico River causes flooding and sedimentation in the maritime zone. Excessive use of pesticides and fertilizers and poor management of animal waste contaminate water and soil, affecting biodiversity and increasing erosion. The detour of watercourses and deforestation change the microclimate, increasing drought. Mangrove deforestation and forest fires aggravate the situation, especially in protected areas with weak monitoring and control.
96. **Poor solid waste management:** Due to a lack of infrastructure and environmental education, people dispose of garbage in ravines and bodies of water. The lack of municipal capacities results in inadequate waste management. At least 5 landfills and open burning of garbage are reported in the coastal zone, with accumulation of garbage and commercial waste reaching wetlands and the sea, affecting vegetation and fauna (FUNDEMAR, 2017, Sanchez, 2023). Impacts include diseases or intoxication due to ingestion of microplastics and entrapment in nets or plastic waste of marine fauna, and transmission of diseases by vectors in the accumulation of garbage, creating sources of infection and attracting pests.
97. **Some of the tourist boats** that bring visitors to Cayo Arena (about 7,000 tourists a year) travel at high speed, causing damage to the corals, increasing the risk of collision to marine mammals, especially manatees and sea turtles, and the noise and waves generated also impact this species adapted to live in calm waters.
98. **Bad fishing practices:** The use of unauthorized fishing gear such as fixed mesh nets and trawls causes the death of many organisms that are not finally consumed, drowning manatees and sea turtles and damaging corals. Overexploitation of fishery resources has pushed most species to the limit, both in the sea and in mangroves, coral reefs, and seagrasses; in addition, the closed seasons and catch sizes established by law are not respected. Illegal hunting of manatees has even been reported.
99. **Changes in land use** resulting from human activities cause sedimentation of seagrass areas by dumping soil into wetlands. The construction of hard structures on berms and dunes destabilizes the sedimentary equilibrium of the beaches, causing coastal erosion.
100. **Excavations and looting of archaeological sites** in coastal caves cause physical impacts on these delicate ecosystems. Finally, the introduction of exotic species causes pressure and displacement of native and autochthonous species such as the Nim (tree), Lionfish, dogs, cats, pigs, ferret or mongoose and mice.

**g) Population risk associated with the prioritized site**

101. The Exposure, Vulnerability and Climate Risk maps developed as part of the Socioeconomic Vulnerability Analysis that accompanied the formulation of this proposal (Figure 7) show the **vulnerability of the resident population in the coastal municipalities** of the province of Puerto Plata (province that contains the project area) to hazards such as drought, temperature increase, sea surface temperature increase, sea level rise, and increased frequency and intensity of hurricanes and coastal storms that accelerate coastal erosion. The Climate Risk Index is the result of the analysis of hazards, exposure, sensitivity, and adaptive capacities (detailed in the lower part of the figure) of the resident population in the face of climate change.

102. The municipalities of **Villa Isabela, Luperón and Puerto Plata stand out as those with the highest climate risk** in this analysis. In the case of Villa Isabela and Luperón, the result is because they present a medium level of exposure: they have a small resident population, but their livelihoods, such as fishing, agriculture, livestock, and tourism services, are highly exposed to the aforementioned climate hazards. In addition, they show high vulnerability due to their sensitivity, evidenced by high levels of multidimensional poverty, illiteracy rates, poor housing construction quality, limited access to water for domestic use, and a high rate of generational dependency and disabled people. Luperón's adaptive capacities are rated as medium, while Villa Isabela's are at a low-medium level. Both municipalities have significant protected areas in their territory but lack instruments of Territorial Tourism Management and Development Plans that integrate climate change. Their position in the Public Administration Monitoring System ("Sistema de Monitoreo de la Administración Pública", SISMAP)<sup>61</sup> is among those of medium quality in municipal management.

**Figure 7.** Map of exposure, vulnerability and climate risk of the resident population of the five coastal municipalities of the province of Puerto Plata.



Source: prepared by Villa Projects based on vector layers and IGEPD and Ministry of Environment and Natural Resource governance

**h) Ecosystem risk related to the prioritized site**

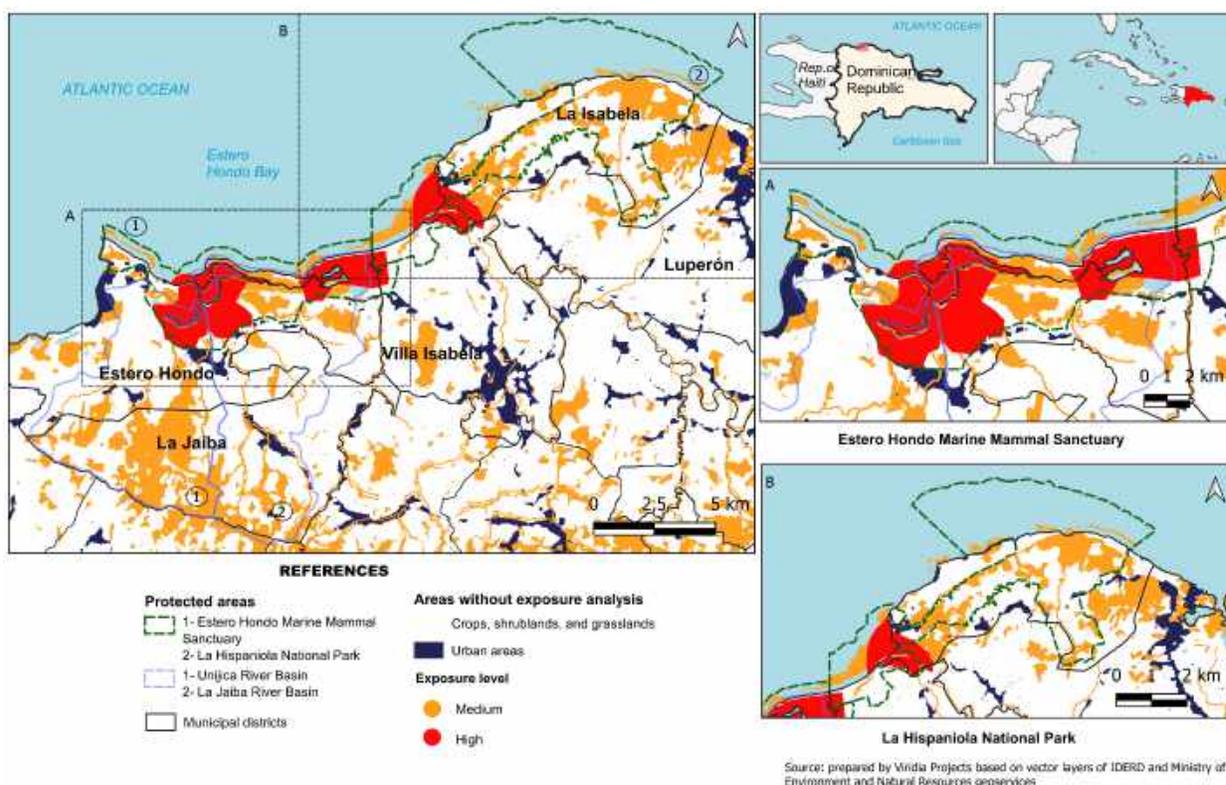
103. Figure 8 shows the ecosystem risk in the framework of the Ecosystem Vulnerability Analysis that accompanied the formulation of this proposal. This expresses the sum of hazard, exposure, and vulnerability (sensitivity and adaptive capacity) of the area's natural elements to climate hazards. The risk of occurrence of the hazards evaluated was high for 100% of the ecosystems and species evaluated, with the highest scores for: cliffs, rocky environments, fish communities, marine mammals in general, the manatee, which was evaluated separately because of its importance to the country, beaches and dunes, and sea turtles. Exposure values were low for 16%, medium for 63%, while 21% of the species and ecosystems obtained a high value. Cliffs, manatees and coastal vegetation had the lowest

<sup>61</sup> The Municipal SISMAP makes it possible to monitor local public management from a multisectoral and interinstitutional approach, involving local governments and central government agencies responsible for different aspects of municipal management and local development.

exposure scores because the other natural elements were exposed to a greater number of threats. While wetlands and native, endemic and endangered species showed the highest level of exposure.

104. In terms of vulnerability, the scores for environmental sensitivity were generally high to medium, while the scores for adaptive capacity were low to medium, except for marine mammals, which showed a high adaptive capacity due to their wide distribution and migratory capacity. When these factors are combined, the result is high vulnerability for 74% of the ecosystems and medium for the remaining 26%. Those with the highest vulnerability index were cliffs, corals, species with some degree of threats, beaches and sea turtles. The ecosystems present in the study area are ecosystems of great environmental sensitivity, as evidenced by their level of protected area classification, which coincides with the results of the risk analysis, which showed that 84% of the sector's ecosystems and species are at high risk to climate change threats, while the remaining 16% are at medium risk.

**Figure 8.** Exposure, vulnerability and climate risk map of the ecosystems linked to the prioritized sites.



### i) Barriers to adaptation

105. The main barriers identified to increase local adaptive capacity are:

106. **Isolated and sectorized actions in the project area.** During the consultation process for the preparation of the proposal, the **limited inter-institutional coordination** between the different ministries responsible for the prioritized protected areas was highlighted: MMARN, MITUR and the Ministry of Culture. It was noted that this lack of coordination explains part of the failures in the continuity of activities. The institutions tend to work within the framework of their competencies, but there are few instances of coordination that allow for the analysis of the territory as a whole prior to implementing actions.

107. **Limited knowledge at the local government level on climate change impacts** and adaptation measures, gender issues and environmental and social safeguards. In addition, not all areas of government at the **national level** have the same capacities: while MMARN as its area of competence has greater knowledge on these issues, workers and policy makers in other ministries such as Tourism and Culture could benefit from greater knowledge on expected climate impacts and appropriate adaptation measures to increase the resilience of terrestrial, coastal and marine ecosystems in protected areas to ensure climate change-sensitive policy decision-making.

108. **Limited knowledge of the local population** of Estero Hondo and La Isabela about the protected areas in which they live, the expected impacts of climate change on their livelihoods and appropriate adaptation measures. During the consultations, the high degree of illiteracy in the area was highlighted, as well as the limited local knowledge about climate impacts on the ecosystem and their livelihoods, as well as the cultural and natural heritage that surrounds them. Also, different stakeholders highlighted the limited knowledge of foreign languages, which are important for tourism. These skills are key to livelihood diversification towards resilient ecotourism projects.

109. **Limited knowledge of best practices. Livestock sector:** As highlighted above, drought is one of the main impacts observed in the prioritized area, where the livestock sector is very important as a livelihood for the local population. Traditional practices in this sector have contributed to deforestation and increase and aggravate the impacts of drought, and the capacity and knowledge of producers to incorporate adaptation measures to modify these traditional practices is limited. The project will help improve knowledge and implement demonstration farms that will enable other producers to replicate systems that reduce the impact on livestock. **Fishing sector:** This sector applies practices that aggravate the impact of climate change on the coastal-marine ecosystem. Artisanal fishermen have limited knowledge of more sustainable alternative practices due to limited resources and support in this area.
110. **Limited information on coastal-marine resources and records that provide evidence of their evolution and climate change impacts.** The project area does not currently have tools and equipment to monitor key indicators for drought impacts, coastal erosion, monitoring of coastal dynamics, or marine biodiversity such as manatees, corals, and seagrasses that are key to the functioning of the ecosystem. The country has no risk analysis with climate change scenarios for coastal erosion in the project area, and protected areas continue to suffer from deforestation. In terms of tourism, the project area does not have automated records that would allow for adequate monitoring of incoming tourists and better understanding of their experience in order to act and promote appropriate actions to strengthen the livelihoods of the population that engages in this economic activity. Thus, monitoring and surveillance must be strengthened to promote real-time, evidence-based decision making.

## Project/Programme Objectives:

### General objective:

111. The project aims to reduce the vulnerability of the coastal-marine and terrestrial ecosystems of the Hispaniola and Estero Hondo Mammal Sanctuary protected areas, as well as to increase the resilience of livelihoods and the well-being of the local population to the risks of heat waves, drought, and coastal erosion caused by rising sea levels and an increase in the frequency and intensity of extreme events, ocean acidification, and rising sea surface temperatures.

### Specific objectives:

112. Strengthen planning and monitoring of coastal and marine areas.
113. Strengthen terrestrial and marine ecosystems in the face of climate change impacts.
114. Strengthen and diversify the livelihoods of the local population.
115. Improve housing to contribute to the wellbeing and health of the local population in the face of heat waves.
116. Strengthen the capacities of key stakeholders and reinforce knowledge on climate change to improve stakeholder engagement in climate action.

## Project/Programme Components and Financing:

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Strengthen planning and monitoring of coastal and marine areas	Output 1.1. Strengthened inter-institutional technical coordination. Output 1.2. Strengthened evidence-based planning. Output 1.3. Improved socio-environmental recording systems.	Plans for the coastal-marine sector strengthened considering climate change. Use of climate risk information and monitoring of coastal-marine resources to inform government decision-making.	1.500.000
2. Strengthen terrestrial and marine ecosystems in the face of climate change impacts	Output 2.1. Strengthened coastal-marine and terrestrial ecosystems.	Reduced impacts of erosion, drought and extreme events on terrestrial, coastal and marine ecosystems in the project area.	3.000.000
3. Strengthen and diversify the livelihoods of the local population	Output 3.1 Community-based Ecological and Cultural Tourism Plan developed and implemented. Output 3.2 Improved sustainable fishing practices and diversified livelihoods.	Local people's livelihoods strengthened in the face of climate change impacts.	2.500.000

4. Improve housing to contribute to the wellbeing and health of the local population in the face of heat waves	Output 4.1 Improved housing for vulnerable populations in the face of heat waves.	Communities with strengthened capacities through more resilient housing to cope with heat waves.	642.000
5. Build capacities of key stakeholders and strengthen knowledge on climate change	Output 5.1 Local population sensitized on climate change and capacities strengthened for resilient livelihoods. Output 5.2. Government entities strengthened to manage climate impacts of erosion, heat waves and drought. Output 5.3 Improved climate change knowledge.	Governmental, civil society and public actors involved in climate action and with knowledge of climate change adaptation in coastal-marine areas.	700.000
6. Project/Programme Execution cost			875.000
7. Total Project/Programme cost			9.217.000
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			783.000
<b>Amount of Financing Requested</b>			<b>10.000.000</b>

### Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	September 2025
Mid-term Review (if planned)	September 2027
Project/Programme Closing	August 2029
Terminal Evaluation	June 2029

## PART II: PROJECT / PROGRAMME JUSTIFICATION

**A. Describe the project/programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.**

117. The measures proposed in this project respond to an analysis based on diagnoses of the prioritized site and the needs expressed by the national government, local governments, non-governmental organizations and representatives of the local population who were consulted during the formulation process. Each of these activities is described below. Two of the activities have been classified as Unidentified Sub-Projects (USP): 3.1.3 "Protection and reinforcement of Cultural Heritage against coastal erosion" and 4.1.1 "Implementation of a mechanism to help adapt housing to heat waves".

### ***Component 1 – Strengthen planning and monitoring of coastal and marine areas***

#### **Output 1.1. Strengthened inter-institutional technical coordination**

**Activity 1.1.1** Design and implementation of an inter-institutional technical coordination mechanism for the management of coastal-marine and cultural resources in the face of climate change

118. This activity aims to establish an efficient cooperation and coordination system among various governmental institutions and mainly at the central level to manage and protect coastal-marine resources, as well as cultural resources, with a focus on improving resilience to climate change.

119. It seeks to provide the responsible institutions and stakeholders below with a coordination channel through which they can promote decision-making and facilitate the implementation of initiatives related to the two protected areas selected in this project formulation.

120. Tasks, stages: i) Identification of key institutions and actors; ii) Agreement on and creation of the most suitable

figure (institutional agreement, commission, working group); iii) Development of coordination and communication protocols; iv) Conducting training workshops for the members of the coordination mechanism; v) Implementation of the coordination mechanism.

121. Gender and inclusion perspective: It will be proposed that the interinstitutional mechanism be integrated by a representative of the Ministry of Women, as well as the Interinstitutional Gender and Climate Change Roundtable (“Mesa Interinstitucional de Género y Cambio Climático”). Materials developed as part of the coordination and communication protocols will be developed using inclusive language. Training on gender and inclusion will be included for members of the coordination mechanism.
122. Location: La Hispaniola National Park and Estero Hondo Marine Mammal Sanctuary.
123. Beneficiary population: Government institutions with responsibilities in the work areas, local communities, tourists, ecosystems and cultural heritage of both protected areas.
124. Responsible institutions/actors involved: MMARN, MITUR, Ministry of Culture, Ministry of Women, local governments. The National Council for Climate Change and Clean Development Mechanism (“Consejo Nacional para el Cambio Climático y Mecanismo de Desarrollo Limpio”) will be consulted.

## **Output 1.2. Strengthened evidence-based planning**

### **Activity 1.2.1** Development of a *Resilient livelihoods transition plan for the fisheries sector*

125. This measure proposes the development of a plan for a comprehensive approach to the fishing sector.
126. On the one hand, it is proposed to create **responsible fishing areas** for the recovery of the fishing resource that is currently overexploited and threatened by changing conditions in the sea caused by climate change, such as the increase in sea surface temperature, which is expected to cause an even more pronounced decrease in catches. To develop this measure, we will work together with MMARN, Dominican Council of Fisheries and Aquaculture (CODOPESCA) and the fishermen of the sector to propose that the area be declared a marine area of responsible fishing or a figure that the institutions consider appropriate for the sector. Important areas for fish, such as mangroves, corals, seagrasses and spawning areas will be identified with the support of the fishermen, and with the support of a technical study to jointly develop a fisheries management plan for the area that may include: (i) Identification of permitted fishing gear and methods; (ii) Identification of total or partial closed areas; (iii) Training for fishermen so that they assume the monitoring of the area, which guarantees involvement, safeguarding of the area and compliance with the proposed regulations. This training should include lessons learned from successful cases in other areas.
127. On the other hand, it is proposed to **jointly plan a responsible use of the resource and opportunities for diversification of fishermen's livelihoods** with the intention of reducing the pressure of their activity on ecosystems and species, such as aquaculture. Within this framework, the **involvement of fishing activities with tourism** will be especially promoted. Among other things, consideration will be given to promoting aquatic tourism activities and prioritizing investments related to the sector's supply chain (e.g., cold chain). Several of these actions will be implemented through activity 3.2 of this project.
128. Alliances will also be created with ecosystem conservation NGOs for the training and sensitization of fishermen and fisherwomen, and with private institutions to provide economic sustainability to the activities.
129. Gender and inclusion perspective: Women involved in this activity will be guaranteed to active participation in diagnostic and identification activities, so that their knowledge, know-how and practices are effectively considered in the fisheries management plan. In turn, this plan should explicitly state how the women involved, young and adult, will be reached by the training activities related to monitoring, safeguarding and compliance with regulations. The Gender Action Plan (GAP) will detail that for this type of training activities, it will be necessary to have a prior diagnosis of the schedules that best suit the women's activities, as well as the best physical spaces for them to participate in the workshops; if necessary, the project will guarantee the necessary economic resources to pay for the care of children and adolescents during the development of the training workshops.
130. Location: The protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park.
131. Beneficiary population: Artisanal fishermen of the sector.
132. Responsible institutions /actors involved: The responsible entity will be CODOPESCA in conjunction with MMARN.

### **Activity 1.2.2** Support for the development of protected area co-management plans

133. This activity aims to support MMARN in the development of co-management plans – a process that is in its first steps – to improve the management of the protected areas of Estero Hondo Marine Mammal Sanctuary and Hispaniola National Park. The support will be both financial, for the logistics involved in the teamwork of different institutions (such as workshops, field visits and other activities), and technical, providing training based on lessons learned from successful cases of co-management of protected areas inside and outside the country.
134. For the development of this measure, and depending on the activities permitted in each protected area (conservation, training, economic, and others), the identification of possible co-managers will be supported. These

could be public sector institutions, non-profit organizations, higher education institutions, and any other national or foreign legal entity related to the areas to be worked.

135. These co-managers will be mainly economic actors that will provide sustainability over time to the protected areas, such as conservation NGOs and private companies that can finance projects to monitor the health of species and ecosystems. Partnerships will also be formed with private tourism companies that develop ecotourism products for the protected areas, among others.
136. The measure involves the participation of the local communities, integrating them as co-managers of the area to promote the sustainability of the actions in the long term. This will foster local ownership of the natural environment and serve as a means to reactivate the economy of the municipal districts involved, which are currently economically depressed.
137. Gender and inclusion perspective: The co-management plans will be developed with a gender and inclusion perspective based on the information gathered to identify gender roles in each protected area, as well as the relationship of men and women with the resources of each area: access, use and control of resources, the distribution of costs and benefits, and decision-making on existing resources. Based on this, each plan will include specific participation and consultation mechanisms.
138. Location: Protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
139. Beneficiary population: Inhabitants of the municipal districts of La Isabela, Estero Hondo and La Jaiba.
140. Responsible institutions/actors involved: The institution responsible for granting the co-management option is MMARN, therefore, it will be the leader in its implementation, but MITUR and the Ministry of Culture will be among the entities involved.

#### **Activity 1.2.3** Design of a strategy and plan for resilient and sustainable local tourism development

141. As part of the work of the various government agencies in the prioritized protected areas, several strategic tourist attractions, such as caves and cliffs, have been identified that have not yet been developed for tourism. In addition, there are sites with existing infrastructure, such as the La Isabela Historical Museum (“Museo Histórico de La Isabela”) and the Marine Mammal Sanctuary, that lack a developed tourism strategy and facilities or interactive tools to attract visitors’ interest. In this context, this activity aims to identify and develop strategic points of tourist interest that promote sustainable tourism and educate visitors on the importance of conservation and climate change adaptation. A specific plan should be developed for each of the two selected protected areas.
142. It is proposed to develop a strategy and then an associated plan. The strategy will focus on positioning the area as an ecotourism destination that attracts visitors interested in nature and culture. This strategy will have broad, long-term objectives, and the plan will be designed to detail concrete actions. The main stages would include: i) Mapping of current and potential points of interest; ii) Consultations with experts in sustainable tourism and conservation; iii) Design of the strategy and tourism development plan with sustainability criteria, which will include aspects of governance, training, investment and communication; iv) Consultation and participation of local communities in the design of the strategy and plan; v) Approval and dissemination of the strategy; v) Approval and dissemination of the plan.
143. Some elements of this plan have already been analyzed in the Concept Note stage and are described in the activities of Output 3.1. This project is also expected to support the implementation aspects of this plan, which will be described in subsequent components and activities.
144. Gender and inclusion perspective: The participation and consultation of women in the design of the Plan will be guaranteed, so that their needs, interests and perspectives are integrated. We will consider how women can become involved in the subsequent management and administration of these areas, in order to promote them as an economic activity. At the same time, diagnostic information will be compiled and analyzed to gain an in-depth understanding of how women have become involved in tourism development in the area.
145. Location: La Hispaniola National Park and Estero Hondo Marine Mammal Sanctuary.
146. Beneficiary population: Local communities, national and international tourists.
147. Responsible institutions/actors involved: MITUR, MMARN, Ministry of Culture, community associations, local tourism companies.

### **Output 1.3 Improved socio-environmental recording systems**

#### **Activity 1.3.1** Improve monitoring of coastal dynamics

148. The objective of this activity is to collect and record basic information to provide key information on the coastal dynamics from the westernmost point of the Estero Hondo Marine Mammal Sanctuary to the easternmost point of the La Hispaniola National Park protected area. This information will allow a comparative analysis of the behavior of the beach profile over time, which will allow a more accurate understanding of the impacts of climate change on the coast, monitor its evolution and propose measures to increase its climate resilience.
149. It will include the installation of the necessary equipment to collect data such as dry beach extension, seawater

temperature, atmospheric temperature, granulometry, sediment transport (longitudinal and transverse), wave size, wave period, direction of wave incidence on the coast. In addition, the necessary equipment will be installed to process this information and allow monitoring of the coast including type of beach, presence and absence of protective structures, presence of ecosystems such as coastal lagoons, coral reefs, seagrasses or mangroves.

150. The measure also contemplates training for local representatives who are part of the co-management of the protected areas to carry out continuous beach monitoring by collecting additional data that is proposed so that the monitoring of the area is maintained over time.
151. It is proposed to purchase equipment that will automate the collection of information and build a registry that will be managed by the National Maritime Affairs Authority (“Autoridad Nacional de Asuntos Marítimos”, ANAMAR). A computer system will be incorporated to process the information and assist in decision making. This system will feed the data related to climate change threats identified for the area.
152. Gender and inclusion perspective: As part of the collection of coastal climate information and its monitoring, special attention will be paid to ensure that the hiring of professionals includes women. It will be ensured that women who live in the monitored coastal zones and who are part of the co-management plans of the protected areas participate in training activities and are actively involved in monitoring.
153. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
154. Beneficiary population: Local communities near the project’s protected areas.
155. Responsible institutions/actors involved: MMARN, ANAMAR, park administrators, NGOs related to environment and tourism, MITUR, Ministry of Culture, community.

**Activity 1.3.2** Develop and install a drought monitoring system

156. The objective of this activity is to develop a drought monitoring plan that will make it possible to keep track of drought over time in order to take preventive and mitigating measures to improve the quality of life of the affected population.
157. This measure will support the development and implementation of the Component “Desertification and Drought Monitoring” of the National Action Plan to Combat Desertification and Drought 2018-2030 (“Plan de Acción Nacional de Lucha Contra la Desertificación y Sequía 2018-2030”), which is based on: 1) The strengthening of the Environmental Information System (“Sistema de Información Ambiental”, SNIA) of the MMARN, 2) The continuous collection of parameters related to drought such as precipitation, soil moisture, vegetation health, temperature, evapotranspiration and others that are identified as determinants, and 3) The development of national and international cooperation programs.
158. Create a partnership with the World Food Program and the FAO, that has initiated an early warning system, monitoring, early assistance mechanism including social assistance all related to drought.
159. Gender and inclusion perspective: it will be ensured that women who live in the monitored areas and who are specifically affected by the effects of drought can participate in the community consultation spaces, and that they can also access the information generated as part of the monitoring system. The monitoring system will include specific indicators on the effect of drought disaggregated by gender.
160. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
161. Beneficiary population: Local communities near the project’s protected areas.
162. Responsible institutions/actors involved: The responsible agency will be MMARN, which will work in conjunction with the National Meteorological Office (ONAMET), the National Institute of Hydraulic Resources (“Instituto Nacional de Recursos Hídricos”, INDRHI), and the Ministry of Agriculture.

**Activity 1.3.3** Prepare coastal erosion risk maps with climate change considerations

163. The objective of this activity is to generate a coastal erosion risk map as a result of climate change threats such as sea level rise and the increase in the frequency and intensity of extreme rainfall events and hurricanes.
164. The map will be a tool for planning, decision making and information that will reduce the vulnerability of the population settled in these areas.
165. Gender and inclusion perspective: The GAP will include specific activities to ensure that the mapping reflects the knowledge and skills of women and youth, and relevant information on how these threats affect them specifically. The graphic design of the map will include inclusive icons and images.
166. Location: The protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park.
167. Beneficiary population: Local communities near the project’s protected areas.
168. Responsible institutions/actors involved: MMARN, Ministry of Economy, Planning and Development (MEPYD), Presidency, National Integrated Information System (“Sistema Integrado Nacional de Información”, SINI), Emergency Operations Center (“Centro de Operaciones de Emergencias”, COE).

**Activity 1.3.4** Improve the monitoring of manatee, coral and seagrass populations

169. The objective of this measure is to strengthen and give continuity to the monitoring of manatees, corals and seagrasses currently being carried out by non-governmental nature conservation organizations such as the Dominican Foundation of Marine Studies (FUNDEMAR).
170. This activity will provide updated and continuous information on these ecosystems of great importance for the country because of the ecosystem services they provide to the communities, such as: habitat for commercial species, coastal protection against storms that are expected to become increasingly severe and frequent due to climate change. These spaces are also recreational areas for the community, scenic beauty, enjoyment and support for tourism. The manatee is a native species of the country that is in danger of extinction and its population has been drastically reduced in recent years. For the development of this measure, the complete proposal will identify the needs that make it difficult to improve and give continuity to the monitoring of corals, seagrasses, and manatees. Among the strategies to be used for manatee monitoring will be the marking of individuals with sensors that will allow to know with precision their area of distribution, the taking of blood samples for genetic analysis for comparisons with the manatees of the Caribbean region for identification of populations or subspecies.
171. In the case of corals and seagrasses, the study area will be included in an existing coral monitoring project being carried out in other areas of the country. This includes diver training, boat transportation, materials for direct data collection, and diving equipment, among others.
172. Gender and inclusion perspective: Special attention will be paid to ensure that the hiring of professionals includes women. On the other hand, it will be ensured that women in the area participate in consultation activities so that they are aware of the information collected and are involved in monitoring marine populations.
173. Location: Protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
174. Beneficiary population: Local communities near the project's protected areas.
175. Responsible institutions /actors involved: MMARN marine-coastal resources, FUNDEMAR.

#### **Activity 1.3.5 Promote community monitoring**

176. This activity has the objective of empowering the sector communities that live around the protected areas but have not appropriated them. This measure is aimed at implementing the concept of *citizen science* in which the community participates voluntarily in the creation of scientific knowledge with the help of experts. It is proposed to train and sensitize local citizens and fishermen so that they become involved in the care and environmental stewardship of natural resources, in the understanding that these resources provide them with a large amount of goods and services that the population is not aware of.
177. It is proposed to establish community monitoring sites on the coast, defined as part of the coastal monitoring system to be developed in the project, from which anyone can take a picture with their cell phone using a fixed structure. These images will record changes in the beach over time and will be sent to a system that will be created to receive and process the information. The person in charge of interpreting these data will also be trained and alliances will be sought with research centers specialized in this area. The methodology for capturing photos will be simple and clear, so that it can also attract tourists visiting the area.
178. This measure seeks to benefit both the environment and the community by integrating disadvantaged communities into ecotourism activities in the protected area. This will foster a sense of belonging as they become aware of the ecological and economic importance of these areas. Inhabitants will be motivated to participate in monitoring the beaches, mangroves, corals, marine mammals, fishing, and other activities related to the area.
179. Gender and inclusion perspective: Measures will be identified to ensure the equitable participation of women and men, youth and adults, in all environmental training and awareness-raising activities (appropriate invitations and invitations, specific schedules, care spaces, etc.). The materials used will be adapted to the needs of women in particular, including the identification of specific topics of interest to them.
180. Location: Protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park.
181. Beneficiary population: Local communities near the project's protected areas.
182. Responsible institutions/actors involved: MMARN (coastal-marine resources – environmental education), CODOPESCA.

#### **Activity 1.3.6 Improve recording and monitoring of deforestation**

183. The use of drones by the protected areas' administrators, who are responsible for monitoring and control of the areas, is proposed because due to the large size of these areas and the limited personnel available, the environmental guard activity is very deficient at the moment. The drones would allow these people to constantly visualize the entire sector and be able to act when an eventuality arises (they have the power to file reports and complaints), thus improving the enforcement of the prohibition of deforestation and other crimes such as arson. This activity should include training in the use of this equipment and create alliances with security forces such as environmental police and firefighters that can respond to threats.
184. Gender and inclusion perspective: Women working in environmental nurseries will be involved in this activity to strengthen their prior knowledge in this area. Training activities on the use of drones will be organized to ensure the

active participation of women. In addition, the information generated from recording and monitoring deforestation will be disseminated so that it is accessible to the entire population of the area, with special emphasis on guaranteeing women's access to it.

185. Location: Protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park.

186. Beneficiary population: Local communities near the project's protected areas.

187. Responsible institutions/actors involved: MMARN (coastal-marine resources – public forces).

**Activity 1.3.7** Improve the system for recording the impact of events in the Integrated National Information System (SINI)

188. This activity is aimed at supporting the warning system by automating the emergency and alert rooms in order to record information at the national level. Supporting the creation of the missing crisis rooms and equipment for their operation. Strengthening the monitoring of climate change hazards and promoting the collection of information regarding hazards at the local level.

189. It will include a training program for Civil Defense personnel on threats related to climate change and the impacts on the population and ecosystems. Training in the generation of scientific reports on climate change, adaptation, and mitigation. Training will be included for mayors and governors on climate change and risk in order to include climate change adaptation and mitigation in planning to reduce disaster risks associated with climate.

190. Create alliances with ONAMET for information from meteorological stations to replicate the model for surveillance and monitoring of river flooding due to extreme precipitation in the area.

191. Gender and inclusion perspective: The technical teams will identify, include, and monitor specific indicators for monitoring impacts disaggregated by gender and age as part of the improvement of the system. Training activities will include specific modules with topics proposed from a gender perspective, especially related to the impacts of climate change on men and women, boys, girls, older adults, and vulnerable populations. The active participation of women who are part of Civil Defense teams, mayors' offices and governors' offices will be promoted.

192. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park.

193. Beneficiary population: Local communities near the project's protected areas.

194. Responsible institutions/actors involved: MMARN, Civil Defense, ONAMET.

## ***Component 2 – Strengthen terrestrial and marine ecosystems in the face of climate change impacts***

### **Output 2.1 – Strengthened coastal-marine and terrestrial ecosystems**

**Activity 2.1.1** Restoration of coastal ecosystems (including corals, mangroves, grasslands)

195. This activity aims to increase the resilience of coastal ecosystems to the impacts of climate change. For the development of this measure, it is proposed to give continuity to the existing coral repopulation program by incorporating the coral reefs found within the study area.

196. Mangrove reforestation is being considered in areas that have been lost due to forest fires and the reduction of freshwater supplies to the area as a result of the prolonged drought that the area has suffered for 6 years.

197. It is proposed to plant and repopulate seagrass areas that are identified as degraded after the monitoring process explained in the activity. As part of the activity, open days will be organized for the population, tour operators and tourists to learn how restoration is carried out and become aware of its importance and ways to replicate it.

198. Protection of the seabed and ecosystems:

199. This measure is aimed at protecting the underwater marine heritage found in the marine area of La Hispaniola National Park and marine ecosystems such as corals, which are affected by the vessels that use these areas as docking areas.

200. For the development of this measure, it is proposed to place marine marker buoys to indicate the presence of underwater heritage and the presence of highly sensitive ecosystems.

201. It includes the placement of mooring buoys to prevent boats from dropping anchor at sea.

202. This measure includes the marking of the navigation channel for fast boats in order to reduce the impact on manatees and other marine mammals and highly sensitive ecosystems such as corals, seagrasses and mangroves.

203. Gender and inclusion perspective: equal participation of women and men, young people and adults, will be ensured in all training and environmental awareness activities (appropriate invitations and invitations, specific schedules, care spaces, etc.). The materials used will be adapted to the specific needs of the population in general, and of women in particular. Livelihood diversification activities will take into account the interests and knowledge of women linked to the fishing sector.

204. Location: Protected areas of Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park

205. Beneficiary population: Local communities near the project's protected areas.

206. Responsible institutions/actors involved: MMARN, ANAMAR.

### **Activity 2.1.2 Upstream reforestation**

207. This activity aims to reforest the riparian forests located in the public lands of the Unijica River sub-basin and the Jaiba River basin, which have been cut down due to changes in land use, due to the insertion of agricultural and livestock activities and other human activities that require direct access to water bodies. The synergy of deforestation in the sector together with the decrease in average rainfall has increased the problem of drought in the study area, which affects both the communities and the ecosystems located downstream in the coastal zone. As part of the activity, open days will be organized for the population and tourism operators to learn how reforestation is carried out and become aware of its importance and ways to replicate it.
208. For the development of this measure, it is proposed to incorporate an environmental education and awareness component for cattle ranchers to guide them towards a transition to silvopasture systems that are aligned with the reforestation proposal on public lands that will include an investment in tree planting in the selected areas.
209. This measure is expected to reduce the water stress suffered by the manatee population living between the Estero Hondo Marine Mammal Sanctuary and Hispaniola National Park, because the manatee needs to drink fresh water from time to time in order to subsist and the drought has reduced almost all of the freshwater tributaries to the estuary, causing more and more seawater to enter, salinizing the estuary.
210. A measure aimed at resolving the shortage of fresh water for the communities will not be developed because there is a project under construction for an aqueduct that is expected to minimize the impacts that the drought is causing to these communities.
211. Gender and inclusion perspective: As part of the environmental education activities, specific measures will be included for the participation of women linked to the livestock activity. Gender equality issues will be included in the specific modules or workshops to be implemented.
212. Location: Unijica River sub-basin and La Jaiba River basin.
213. Beneficiary population: Populations associated with the sub-basins and ecosystems.
214. Responsible institutions/actors involved: MMARN, Ministry of Agriculture.

## **Component 3 – Strengthen and diversify the livelihoods of the local population**

### **Output 3.1 Community-based Ecological and Cultural Tourism Plan developed and implemented**

#### **Activity 3.1.1 Habilitation of the Estero Hondo Mammal Sanctuary Interpretation Center**

215. The purpose of this activity is to enable and improve the Estero Hondo Marine Mammal Sanctuary Interpretation Center in order to provide visitors with an educational and interactive experience about marine biodiversity and the importance of conservation. The center will serve as a focal point for environmental education, promoting awareness and commitment to the protection of marine mammals and their habitats.
216. Tasks, stages: i) Initial assessment: Diagnosis of the current state of the center. Identify infrastructure and equipment needs; ii) Project design: Develop a design plan that includes exhibition areas, educational classrooms and interactive zones. Consult with experts in museology and environmental education; iii) Implementation: Renovate and refurbish the center's facilities. Install interactive and educational exhibits. Develop educational materials and interpretive resources; iv) Training: Train staff in environmental interpretation techniques and management of the center; v) Promotion and launch: Conduct a promotional campaign to publicize the center.
217. Gender and inclusion perspective: in the initial evaluation stage, it will be ensured that the vision, interests and needs of women, young and adult women, are taken into account in the design of the project and their future involvement in the management of the Center. The design and content of the Center (educational and interactive materials, physical spaces, access, etc.) will be inclusive and accessible to all people, including people with reduced mobility, the blind, pregnant women and children. Training will include modules on gender equality. Design of institutional documents (such as gender policy) that promote gender equality in the management of the Center.
218. Location: Estero Hondo Marine Mammal Sanctuary.
219. Beneficiary population: Park and sanctuary visitors (including national and international tourists), local communities that will benefit from awareness and educational opportunities, students and academics interested in marine biodiversity and conservation.
220. Responsible institutions/actors involved: MMARN, MITUR, environmental and conservation NGOs, universities and research centers, local communities, and fishermen's associations.

#### **Activity 3.1.2 Installation of accesses, trails and interpretive signage**

221. Needs will be determined for the installation of accesses, trails, and tourist signage based on the Integral Plan for the Development of Points of Tourist Interest ("Plan Integral para el Desarrollo de Puntos de Interés Turísticos"). The need has been identified for signage to provide visitors with information on local vegetation, tourist routes, hiking trails, and to explain historical sites and the importance of the natural heritage. This activity aims to improve accessibility and the visitor experience by creating well-marked trails and adequate access, promoting

environmental and cultural education.

222. Tasks, stages: i) Design of trails and signage based on environmental and cultural studies; ii) Construction of accesses and trails; iii) Installation of interpretive signage at strategic points. The design of this activity will incorporate innovative elements such as augmented reality technologies that allow visitors to interact with the physical environment, visualizing and geolocating a multimedia content or real object thus allowing in situ access to historical-archaeological and cultural information through cell phones and tablets. This contributes to enhance experiences by adding virtual components such as digital images, graphics or sensations as a new layer of interaction with the real world.
223. Gender and inclusion perspective: works carried out for the installation of accesses and trails will take into account safety and inclusion criteria. Intervention at points of tourist interest will be adapted to the specific needs of women, pregnant women, children, people with reduced mobility, the blind, etc., and will not affect the daily life of those who circulate there. Specific criteria may be included in the specifications for the contracting of public works companies. The signage will be adequate to inform and raise awareness of the primary care services in the area (medical emergencies, attention to cases of gender violence, etc.), as well as being designed with gender equality and social inclusion criteria (including language for the blind). If new lighting is installed, criteria that contribute to women's safety will be taken into account.
224. Beneficiary population: Visitors, local communities.
225. Responsible institutions/actors involved: MMARN, MITUR, NGOs, and ecotourism companies.

**Activity 3.1.3** Protection and reinforcement of cultural heritage from coastal erosion

226. The archaeological site of La Hispaniola is threatened by coastal erosion and rising sea levels, which aggravate the impacts of the natural deterioration of the site. The private sector has already conducted a study in the area that prioritizes the installation of gabions to protect the historical heritage from waves and rising sea levels. This activity will update the feasibility study carried out by the private sector and complement it to determine the best investment alternative to ensure the protection of the cultural heritage. In addition, works will be carried out for the consolidation of already damaged structures such as the Admiral's House to revalue the tourist site. This activity is a USP since the best investment has not yet been defined, which will be determined by the feasibility study to be carried out during implementation.
227. Tasks, stages: i) Development of the feasibility analysis to determine the investments for site protection, ii) Implementation of protection structures.
228. Gender and inclusion perspective: Specific gender equality and inclusion criteria will be included in the bidding documents for contracting public works companies that will be in charge of reinforcing and adapting the park's tourist sites. If the feasibility study update includes consultations with the community, the vision, interests, and needs of women, youth, and adults will be considered.
229. Location: La Hispaniola National Park.
230. Beneficiary population: Local communities, researchers, and tourists interested in cultural heritage.
231. Responsible institutions/actors involved: Ministry of Culture, MMARN, universities, and cultural NGOs.

**Activity 3.1.4** Sensitization and interpretation of Natural and Cultural Heritage

232. This activity aims to increase awareness and knowledge about the importance of natural and cultural heritage through awareness and interpretation programs.
233. In both protected areas there is a need to develop a program of activities that can be implemented in the existing infrastructure built through this Project. Activity programs usually offered in protected areas include: Live Theater (dramatic performances that recreate historical events or show wildlife in their natural habitat), Educational Workshops (hands-on sessions on conservation, biodiversity, and recycling techniques), guided excursions (expert-led hikes and tours that explain the flora, fauna, and geology of the area), volunteer programs (initiatives where visitors can participate in conservation activities), exhibits and museums (permanent or temporary exhibits on the history, culture, and biodiversity of the area).
234. Priority will also be given to activities related to awareness and studies using technology. With this approach and for the Estero Hondo Sanctuary, the use of drones will be promoted to see manatee activity in real time and to observe the area's ecosystems, as part of a program to interpret nature and its importance for sustainable community development. In the case of La Hispaniola National Park, a project based on augmented reality will be implemented to promote understanding of the importance of the heritage by observing it in its original state and as part of a period context.
235. Tasks, stages: Development of educational and awareness materials; Implementation of on-site interpretation programs; Organization of awareness events and activities; Evaluation of the effectiveness of awareness activities.
236. Gender and inclusion perspective: Measures will be implemented to ensure the equitable participation of women, men, youth and adults in training and awareness-raising activities on natural and cultural heritage. This includes adequate convocations, specific schedules, and care spaces. Educational materials will be adapted to the needs of

the general population and women in particular, using inclusive language. Events will consider schedules that allow for the participation of women and guarantee care spaces for children and adolescents.

- 237. Location: Hispaniola National Park and Estero Hondo Marine Mammal Sanctuary.
- 238. Beneficiary population: Visitors, local communities, students.
- 239. Responsible institutions/actors involved: MMARN, Ministry of Culture, NGOs, and tourist guides.

## **Output 3.2 Improved sustainable fishing practices and diversified livelihoods**

### **Activity 3.2.1 Aquatic tourism**

- 240. This measure contemplates the diversification of fishermen's livelihoods into ecotourism through training and awareness-raising, with the intention of reducing pressure on fish communities, seagrasses and corals that are affected by overfishing and inappropriate fishing gear and methods such as navigation ("chinchorro") and trawling.
- 241. In addition, fishermen and fisherwomen will be trained as tour guides so that they can be integrated into the underwater tourism activity that is to be promoted with the underwater heritage of La Hispaniola National Park and use their boats to observe marine mammals and snorkel in the coral reef area with the corresponding regulations.
- 242. Support is also envisaged for making changes to the boats so that marine fauna can be observed through the floor of the boat (glass) and offered as a tourist product.
- 243. Gender and inclusion perspective: Measures will be implemented to ensure the equitable participation of women, men, youth and adults in environmental training and awareness-raising activities. Educational materials will be adapted to the needs of the general population and women in particular, using inclusive language. The PAG will include specific activities to involve women in the fishing sector and potential stakeholders in tour guide trainings, considering their experience in local aquatic activities.
- 244. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
- 245. Beneficiary population: Artisanal fishermen and women of the sector.
- 246. Responsible institutions/actors involved: The responsible entity will be CODOPESCA, MITUR in conjunction with MMARN.

### **Activity 3.2.2 Fishing cooperativism**

- 247. This measure is aimed at strengthening local artisanal fishermen through lessons learned from other successful experiences and training in community organization.
- 248. For the development of this measure, the organization of the fishermen of the Estero Hondo and Villa Isabela sector in fishing cooperatives will be proposed so that they can sell their products directly to local merchants and families without intermediaries, this will allow the fishermen to establish fairer prices for the product they extract. This activity could include the women of the sector so that they could be in charge of sales and the men could be in charge of extraction.
- 249. Gender and inclusion perspective: To promote gender inclusion in fishing cooperatives, concrete measures will be implemented to involve women in economic activities relevant to them. A proper diagnosis is crucial to avoid overburdening their responsibilities. Cooperative regulations will be designed with a gender perspective to ensure women's participation and representation in decision-making. Successful experiences will be sought that highlight the effective participation of women as fisherwomen, collectors or traders. In addition, specific activities will be included in the PAG to strengthen women's capacities in areas such as commercialization and marketing.
- 250. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
- 251. Beneficiary population: Artisanal fishermen and women of the sector.
- 252. Responsible institutions/actors involved: The responsible entity will be CODOPESCA and MITUR in conjunction with MMARN.

### **Activity 3.2.3 Aquaculture**

- 253. A sustainable aquaculture model will be designed that can be carried out by the women and fishermen of the community. It is proposed to conduct a feasibility study to identify the best options in terms of the species to be cultivated, the locations, water sources and the methodology that best suits the needs of the communities and the environmental conditions. This activity will be expanded in the full proposal.
- 254. Gender and inclusion perspective: the feasibility study will be conducted from a gender and inclusion perspective, to identify the interests and needs of women involved in the sector, as well as the main gender gaps in aquaculture.
- 255. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
- 256. Beneficiary population: Artisanal fishermen and women of the sector.
- 257. Responsible institutions/actors involved: The responsible entity will be CODOPESCA in conjunction with MMARN.

#### **Activity 3.2.4 Promote better fishing practices**

258. This measure is aimed at training fishermen to use fishing gear and methods that have the least possible impact on marine ecosystems and species. A program of environmental awareness and training in alternative fishing methods and gear is proposed.
259. Gender and inclusion perspective: Effective measures will be identified to ensure the equitable participation of women and men, youth and adults, in the environmental awareness and training program. Educational materials will be tailored to the needs of the population and women in particular, addressing topics of interest to them and using inclusive language. The GAP will include activities to involve women in the fishing sector and potential stakeholders in sustainable fishing methods and knowledge of local marine species.
260. Location: Protected areas Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park
261. Beneficiary population: Artisanal fishermen of the sector.
262. Responsible institutions/actors involved: CODOPESCA, MMARN.

### ***Component 4 – Improve housing to contribute to the wellbeing and health of the local population in the face of heat waves***

#### **Output 4.1 Improved housing for vulnerable populations in the face of heat waves**

##### **Activity 4.1.1 Implementation of an aid mechanism to adapt housing to heat waves**

263. This activity proposes the creation of a mechanism to improve housing that is most exposed to heat waves and belongs to the most vulnerable population. According to what was gathered during consultations with the population, the houses are not prepared to withstand increasingly frequent and intense heat waves, and the most vulnerable people, particularly the elderly, are severely affected in terms of health and well-being. The on-site assessment led to the conclusion that there is a need to provide shade for the houses and yards. It is proposed to intervene in the houses with a combination of trees for the courtyards and solar panels to shade the roofs while generating electricity – an important co-benefit, considering that its supply is frequently interrupted.
264. Gender and inclusion perspective: The mechanism designed will pay special attention to single-parent households headed by women and with older adults, ensuring improvements in their infrastructure. The formulation of the proposal will investigate the need for a special characterization to define specific gender and inclusion criteria related to the eligibility of housing and the implementation of the mechanism.
265. Location: houses more exposed to heat waves.
266. Beneficiary population: Number of households to be reached in the municipal districts of Estero Hondo and La Isabela to be confirmed.
267. Responsible institutions/actors involved: Municipalities, MMARN, Ministry of Public Works.

### ***Component 5 - Build capacities of key stakeholders and strengthen knowledge on climate change***

#### **Output 5.1 Local population sensitized on climate change and capacities strengthened for resilient livelihoods.**

##### **Activity 5.1.1 Promote access to training programs in sustainable tourism and hospitality services**

268. This activity aims to improve the capacities of the local community in sustainable tourism practices and hospitality services, promoting greater competitiveness and sustainability to strengthen livelihoods in the face of climate change impacts. To this end, the National Institute for Technical and Vocational Training (“Instituto Nacional de Formación Técnico Profesional”, INFOTEP) already has programs that could be used. Through the project, the needs of the vulnerable population will be identified in order to access these trainings and support will be provided through training scholarships and transportation scholarships to facilitate their attendance.
269. Gender and inclusion perspective: The identification of training needs will include the specific interests of women in the tourism and hotel sector, as well as their current insertion. Appropriate training methodologies will be considered in order for women to participate (schedules, spaces, materials, etc.). The training program will promote the labor insertion of women and men under equal conditions.
270. Location: Local communities near La Hispaniola National Park and Estero Hondo Marine Mammal Sanctuary within the municipal districts of Estero Hondo and La Isabela.
271. Beneficiary population: Local residents, especially women and youth.
272. Responsible institutions/actors involved: MITUR, INFOTEP and other educational institutions, community development NGOs, and tourism companies.

##### **Activity 5.1.2 Communication and sensitization campaign for the local population on climate change, protected areas and cultural heritage**

273. The project will seek to raise awareness among the population to seek behavioral changes in practices that aggravate the problems caused by climate change, such as waste management at multilevel and multi-stakeholder scales, preservation of ecosystems, care of natural resources such as water in areas impacted by drought, basic concepts on climate change and how they are affecting community life, the importance of protected areas at a general and specific level, culture and heritage, among others. To this end, a communication and awareness plan will be designed, as well as communication material, and the identified strategies will be implemented to communicate and involve the population in improved practices for the preservation of natural resources, the management of the impacts of heat waves, drought and appropriate adaptation measures.
274. This will be incorporated transversally in all possible activities of this Project, so this approach must be taken into account when designing the Plan.
275. Gender and inclusion perspective: The communication and awareness-raising plan will be designed and implemented with a gender perspective, differentiating audiences to adapt messages, media and actions. It will include a specific section to reach women, young and adult women, according to previous diagnoses that inform how their practices and knowledge influence the issues. Communication materials will be adapted accordingly, using inclusive language and images without gender bias.
276. Location: Municipal districts of Estero Hondo and La Isabela.
277. Beneficiary population: Residents.
278. Responsible institutions/actors involved: MMARN, municipalities.

## **Output 5.2 Government entities strengthened to manage climate impacts of erosion, heat waves and drought**

### **Activity 5.2.1 Training on climate change mainstreaming and risk management for coastal and marine resources, tourism and cultural heritage**

279. This activity will focus on training government entities at both national and subnational levels on how to integrate climate change into their policies and practices. Workshops and courses will be held on the management of risks associated with climate change, especially in coastal and marine areas, as well as in the tourism and cultural heritage sectors. The contents will address strategies to mitigate the effects of erosion, heat waves and drought, promoting sustainable and resilient management.
280. 275. Gender and inclusion perspective: Training will include a gender perspective, ensuring that women and other vulnerable groups are considered in the planning and implementation of climate policies. Specific modules will be designed to address gender-differentiated needs and roles in risk and resource management. In addition, equal participation of women and men will be ensured in all training activities.
281. Location: Central institutions of the tourism, culture, environment and climate change sectors. Subnational government institutions such as mayors' offices and sectoral representations.
282. Beneficiary population: Officials of local, regional and national governmental entities, with special emphasis on those responsible for natural resource management, tourism and cultural heritage.
283. Responsible institutions/actors involved: MMARN, MITUR, local governments, NGOs specialized in climate change and risk management, and international cooperation agencies.

### **Activity 5.2.2 Strengthening environmental and social risk management systems, including gender issues**

284. This activity will focus on improving environmental and social risk management systems in government entities. Tools and protocols will be developed for the assessment and mitigation of climate and social risks, with special attention to gender mainstreaming. This will include training in the identification of specific vulnerabilities of different social groups and the implementation of inclusive adaptive and mitigation measures.
285. 275. Gender and inclusion perspective: A risk analysis and management methodology will be implemented that takes into account the different needs and contributions of women and men. Specific strategies will be designed to address gender vulnerabilities and promote the active participation of women in decision making. Training materials and tools developed will be inclusive and will not reproduce gender stereotypes.
286. Location: Areas of influence of the communities near La Hispaniola National Park and Estero Hondo Marine Mammal Sanctuary, in the municipal districts of Estero Hondo and La Isabela.
287. Beneficiary population: Technical and administrative personnel of governmental entities at the local, regional and national levels, with a focus on those working in natural and social resource management.
288. Responsible institutions/actors involved: MMARN, MITUR, local governments, NGOs focused on community development and gender equity, academic and research institutions, and international cooperation agencies.

## **Output 5.3 Improved climate change knowledge**

### **Activity 5.3.1 Promote the systematization of the Project's lessons learned and their dissemination**

289. This activity will finance the development of at least 3 case studies, systematization of experiences, the exchange and reflection of the different project participants, as well as the development of knowledge products to disseminate key information to different audiences. These knowledge products may include videos, one-pagers, infographics, and anything that is identified as key to reach key decision makers and encourage the replication of experiences. Workshops will also be held to bring together governmental actors, international organizations, and NGOs working on these issues, as well as the local population to promote knowledge exchange and joint reflection.
290. 275. Gender and inclusion perspective: All materials will be produced with inclusive language, images and infographics without gender bias, and videos will represent women and men, youth and adults equally. Workshops will include specific sessions on gender and inclusion and equal representation of speakers. Resources will be secured for women civil society representatives to participate.
291. Responsible institutions/actors involved: MMARN, MITUR, Ministry of Culture, Ministry of Women.
- Activity 5.3.2 Exchange of experiences**
292. In order to promote peer learning, the project will organize outings for the exchange of experiences where the actors implementing the project, both governmental, NGOs and local population, will be encouraged to learn and share the project experience with other regions. Some of the regions with initiatives that can be considered are the following: Restoration and conservation of mangrove ecosystems, implemented in Samaná by the Center for the Conservation and Ecodevelopment of Samaná Bay and its Environment (“Centro para la Conservación y Ecodesarrollo de la Bahía de Samaná y su Entorno”, CEBSE); Coral Reef Restoration, implemented in Bayahibe and other areas of the country through FUNDEMAR; Development of Sustainable Community Tourism initiatives, a project implemented throughout the northern region of the country by MITUR with funds from JICA.
293. 275. Gender and inclusion perspective: the exchange of experiences will be organized based on the identification of specific visits that illustrate how the project is being implemented with a gender and inclusion perspective, in order to promote this learning process. Both the technical teams executing the project and representatives of the local population will have equal representation of men and women.
294. Responsible institutions/actors involved: MMARN, MITUR, Ministry of Culture, Ministry of Women.

**B. Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

**Economic benefits of the Project**

295. The project will ensure tangible economic benefits for the vulnerable population at the project site, such as stable income, preservation of employment and creation of new jobs through the diversification of resilient livelihoods. It will also protect natural and historical heritages that are tourist attractions, generating savings for the population and the local government. This will improve adaptive capacity and resilience to climate change threats, reducing associated costs.
296. Comp. 1, through the strengthening of inter-ministerial governance and coordination mechanisms (Output 1.1) and the improvement of the monitoring and information management system on coastal dynamics, erosion risk, drought, event impacts, deforestation, and manatee, coral and seagrass populations (Output 1.3), will allow for better organization among stakeholders and greater effectiveness of activities. This will facilitate the localization and prioritization of policies and actions, reducing exposure and economic costs for the public and private sector.
297. Planning instruments (Output 1.2), such as the Resilient Livelihoods Transition Plan for the fisheries sector, the Plan for the resilient and sustainable development of local tourism and the Co-management Plan, together with the implementation of sustainable fisheries and ecotourism activities in Comp. 3, will comprehensively manage, coordinate and develop resilient livelihoods for the tourism and fisheries sector, together with ecosystem protection. The pursuit of resilient livelihoods aims to build the climate change resilience of small-scale community fishers and small tourism service enterprises, preserve and create new jobs, improve incomes from these activities, and generate a linkage effect to other sectors of the economy, developing the local economy and reducing the likelihood of needing government social assistance. Output 3.2 will also install hybrid infrastructure to protect historic heritage of high tourism value.
298. Comp. 2, which includes the restoration of coastal and marine ecosystems (Output 2.1) and the reinforcement of upstream basins (Output 2.2), will contribute to reducing the impact of various climate hazards by acting as natural barriers against hurricanes, storms, sea level rise, coastal erosion and saline intrusion. This will stabilize and even increase income and productivity in the area by reducing losses in agriculture, livestock and fisheries due to climate hazards and ecosystem degradation, while creating opportunities for new recreational ecotourism practices.

Fisheries will benefit from reduced pollution and degradation of marine and coastal ecosystems, and tourism will benefit from new employment alternatives for coastal communities thanks to the tourist attractions provided by these natural heritages. Together with Output 2.2, the problem of drought and soil erosion will be addressed, not only in the riverside but also in the livestock fields, with the implementation of silvopasture systems, which translates into better income for livestock farmers, avoiding the loss of productivity due to poor soil and pasture quality, as well as the costs of water supply for livestock, in addition to improving the health of livestock by increasing their resilience in the face of heat waves.

299. Comp. 4, with the delivery of solar panel kits and trees for households (Output 4.1), will protect the vulnerable population, reducing their exposure and the economic costs associated with heat waves. It generates indirect economic benefits by avoiding public health care costs for health problems exacerbated by extreme heat. In addition, solar panels generate renewable energy, which reduces energy costs for households, reduces demand for non-renewable energy sources, and reduces pressure on energy demand, reducing the possibility of power outages that affect the productivity of the economy.
300. Comp. 5 will strengthen capacities among stakeholders, both institutions (Output 5.1) and community residents (Output 5.2) and will seek to raise awareness of climate risk and develop communication and dissemination strategies that will reduce the economic impact of disasters through education on how to preserve ecosystems that act as natural barriers, reducing the cost of climate change hazards on livelihoods, infrastructure and population. In addition, this component aims to ensure that knowledge and response capacity will last beyond the project period to ensure sustainability of activities and avoid future interventions.
301. A cross-cutting benefit of all results is the creation of indirect employment due to the implementation of planned works and capacity building activities.

#### **Environmental benefits of the Project**

302. Comp. 2 activities, focused on ecosystem-based adaptation solutions, such as restoration of coastal and marine ecosystems and strengthening of upstream basins, will holistically improve ecosystem services: provisioning (e.g. fisheries), supporting (e.g. maintaining the life cycle of wildlife and local communities); regulating services (erosion prevention, climate change moderation, etc.) and improving connectivity between ecosystems. The project promotes activities that foster sustainable and integrated upper basin management to maintain or improve water provision and regulation services; increase forest cover on the riverbank; decrease erosion and sedimentation in rivers; improve biodiversity by promoting the use of native species; improve soil quality.
303. In addition, activities to restore coral reefs, seagrasses and mangroves will generate several benefits: coastal protection (reestablish the natural barrier against strong waves), reduce coastal erosion, conservation of fishery resources, increase biodiversity and the biomass of marine and coastal species, among others. Through Comp. 4, the planting of trees of different native and endemic species will be promoted, which will improve air and soil quality; cool the environment (between 2 and 8 °C); and provide habitat and food for different species (birds), thus contributing to increase urban biodiversity. Through Comps. 1 and 5, awareness-raising and capacity-building processes are intended to bring about a change in the social and cultural behavior of the communities that will allow them to value natural resources and conserve (in the long term) the ecosystem services provided by the basin and coastal ecosystems.

#### **Social benefits of the Project**

304. Comps. 1 and 5, through institutional improvements combined with awareness, communication and community participation campaigns, will allow the population not only to have more information and capacities, but also a greater degree of awareness, involvement and empowerment in relation to climate impacts on the coast and the decisions taken in relation to them. In addition, local capacities will be strengthened to implement and maintain adaptation projects, ensuring their long-term sustainability. The improvement of the environmental information system (Output 1.3) will allow for better preparedness and informed management in the face of extreme climate events, reducing risks and damages to communities and, therefore, the population's exposure to climate impacts.
305. With the development of the Resilient Livelihoods Transition Plan for the fisheries sector, the Plan for the resilient and sustainable development of local tourism and the Co-management Plan (Output 1.2), as well as the activities of Comp. 3, the diversification of resilient livelihoods will be integrated into local development, promoting economic growth balanced with environmental conservation. This will increase employment and income generation opportunities, strengthening the local economy. In addition, Output 3.2 will protect the historical and cultural heritage of the communities, maintaining their identity and traditions.
306. In Comp. 2, the restoration of mangroves, coral reefs and seagrasses (Output 2.1) and the strengthening of upstream basins and silvopasture systems (Output 2.2) will improve ecosystem services, contributing significantly to the quality of life, health and productivity of the population by improving the living environment, water quality, soil, air and biodiversity. Green infrastructure will act as a natural barrier against various climate hazards, reducing damage and loss of property and assets of the vulnerable population.
307. Comp. 4 activities will increase the resilience of households to extreme heat, improving their quality of life and protecting their health. They will also provide access to clean, renewable energy, reducing energy costs and

increasing self-sufficiency with solar panels, and improve the natural environment with trees that not only provide shade, but also improve soil and air quality.

308. The project will also help reduce mass migration or population displacement due to loss of livelihoods, production and other prolonged economic impacts. It will also help mitigate the psychosocial effects on victims of drought and extreme heat.
309. The social benefits of the project will reach both the inhabitants of the areas closest to the coast, who will be the direct beneficiaries, and those who travel to the coast for economic, recreational or cultural activities throughout the year, with a greater influx in summer due to tourism activity (internal and external tourism).

## **Gender analysis**

### **Gender baseline**

310. **Population:** As presented in section A, data from the latest National Population and Housing Census 2022 show that there are 10,760,028 inhabitants in the Dominican Republic, with a female population index of 1.03 in urban areas and 0.86 in rural areas<sup>62</sup>. In the area where the project will be implemented, Luperón is the municipality with the highest percentage of women. On the other hand, the femininity index in poor households is 138.08<sup>63</sup>. Female-headed households in the DR represent 38.8%, being higher in urban areas than in rural areas (41.6% and 32.3% respectively)<sup>64</sup>.
311. **Education:** The data available at the national level indicate that women attend or attended a higher proportion of university education (including graduate, master's and doctoral studies), 31.8%, compared to men, 21.8%. On the other hand, the relationship is reversed when looking at attendance at primary or secondary education centers, where males represent 37% and 40% respectively, in relation to females (31% and 36%)<sup>65</sup>.
312. **Economic situation of women:** According to the latest available data, the male employment rate exceeds the female rate by more than 25 points (74.4% vs. 46.5%), while the relationship is reversed when looking at the open unemployment rate, where women in the Dominican Republic represent 8.2% and men 3.2%. The same gap is observed for the inactivity rate, with the female rate being 49.3% compared to a male inactivity rate of 23.2%<sup>66</sup>. When the distribution of unemployment between men and women by sector is analyzed, it is in the private sector where there are more unemployed women than men. The largest gender gap in unemployment by economic activity is observed in the *hotels, bars and restaurants* category (20,647 women versus 9,837 unemployed men)<sup>67</sup>. In the project's region of influence, Cibao Norte, unemployed females in 2019 were 19,704 and males 9,533<sup>68</sup>. On the other hand, the EAP data for the year 2022 indicate that the *office employees'* occupational group is the one that contains the highest number of women in relation to men, followed by the *service workers and intellectual professionals'* group. The ratio is reversed in favor of males for the *operators and craftsmen'* and *operators and drivers'* groups<sup>69</sup>.
313. In terms of the sectors of the economy that will be influenced by the proposed activities, women's participation stands out in fishing, agriculture and tourism. In the case of the fishing sector, women's economic contribution is related to catching and processing or sales activities, although these are not typically remunerated or socially recognized activities. In the area of influence of the project, their involvement in this economic activity is usually linked to marketing and sales, with the experience "From the fish market to my neighborhood"<sup>70</sup> standing out. The formal participation of women in fishermen's organizations is also not recognized, as men are the ones who are members of these organizations, and therefore most of the projects that support the sector are aimed at male fishermen. In technical assistance initiatives, for example, women's tasks, such as mollusk and oyster harvesting, are not usually taken into account<sup>71</sup>.
314. According to the information included in the Gender and Climate Change Action Plan of the Dominican Republic ("Plan de acción género y cambio climático de República Dominicana", PAGCC-RD), although women are part of the tourism sector, their salary represents approximately 68% of a man's salary. This is linked to the fact that women do not usually occupy management or leadership positions in this sector<sup>72</sup>. According to data from 2022, the employed population at the national level in the economic activity Hotels, Bars and Restaurants had a higher representation of women than men (201,329 and 159,875, respectively)<sup>73</sup>. In the area of influence of the project, it has been observed that the participation of women in the tourism activity is significantly low but could represent an opportunity for women to find employment and economic income, within the framework of activities that will promote

<sup>62</sup> National Population Estimates and Projections ("Estimaciones y Proyecciones Nacionales de Población"), ONE.

<sup>63</sup> Data from ECLAC's Gender Equality Observatory for Latin America and the Caribbean.

<sup>64</sup> 2018, data from ONE based on National Multi-Purpose Household Survey ("Encuesta Nacional de Hogares de Propósitos Múltiples", ENHOGAR).

<sup>65</sup> Ibidem

<sup>66</sup> 2022, data from ONE based on the National and Continuous Labor Force Surveys (Encuestas Nacional y Continua de Fuerza de Trabajo).

<sup>67</sup> Ibidem

<sup>68</sup> Ibidem

<sup>69</sup> Ibidem

<sup>70</sup> See Annex Stakeholders Report.

<sup>71</sup> (PAGCC-RD) 2018-2024

<sup>72</sup> Ibidem

<sup>73</sup> 2022, data from ONE based on the National and Continuous Labor Force Surveys.

sustainable and nature tourism.

315. Use of time: According to data prepared by ECLAC, in the Dominican Republic, the time that men dedicate to unpaid work is significantly less than that dedicated by women. Men spend an average of 10.9 hours per week, while women spend an average of 25.5 hours per week<sup>74</sup>. These data are complemented by those recorded in 2016<sup>75</sup>, which report that women spend an average of 16.7 hours per week on tasks related to domestic and unpaid care work, while men only spend an average of 3.7 hours on the same type of tasks.
316. Access to information technologies: The percentage of men and women who own computers, laptops and desktops, and tablets is practically similar (13.9% and 13.3%, respectively). Similarly, women with cell phone ownership represent 79.7%, while men with cell phones represent 80.6%, at the national level<sup>76</sup>.
317. Institutional Instruments: The Ministry of Women of the Dominican Republic is currently the agency responsible for establishing norms and coordinating the execution of policies, plans and programs at the inter-institutional and sectoral levels, to achieve gender equality and equity and the full exercise of women's citizenship. It has provincial and municipal representation, with an office in Puerto Plata.
318. The National Plan for Gender Equality and Equity 2020-2030 ("Plan de Acción de Género y Cambio Climático para República Dominicana", PLANEG III)<sup>77</sup> includes the National Theme "Gender and Environment", which involves the implementation of the National Sanitation Strategy throughout the country, disaster risk reduction and adaptation to climate change, access to information, participation and decision-making in environmental matters, and the incorporation of the gender approach in environmental planning.
319. The National Plan for Adaptation to Climate Change of the Dominican Republic (PNACC-DR) 2015-2030<sup>78</sup> includes the Cross-Cutting Line 7, "Integration of the Gender Perspective" and recognizes the role of women as agents of change to promote their participation in the transformation of society towards a low carbon and resilient development.
320. The Gender and Climate Change Action Plan for the Dominican Republic (PAGCC-RD) 2018-2024<sup>79</sup> identifies 9 priority sectors for intervention, among which are the coastal marine and tourism sectors, in line with two of the economic sectors on which the activities of this project will impact.
321. The Inter-Institutional Gender and Climate Change Roundtable<sup>80</sup> aims to accelerate the implementation of the PAGCC-RD, and to monitor and promote projects and programs that ensure fairer and more gender-sensitive climate action. It regularly involves actors from the public sector, civil society, the private sector, international cooperation and academia, to integrate the gender perspective in actions related to climate change.

### **Gender benefits of the Project**

322. Through the Gender Action Plan, which will be designed during the preparation stage of the full proposal, the project will include activities and actions that promote and strengthen the active participation and involvement of women, young and adult, in all components, as beneficiaries and as bearers of knowledge and good practices in the sectors of the economy to be supported. As direct and indirect beneficiaries, the project will include specific mechanisms to ensure that the activities respond to their specific needs and specific problems, within the framework of the overall objective to be achieved, as well as to strengthen their skills and knowledge so that they can diversify their livelihoods. In addition, the project will work to include the gender and inclusion perspective in the actions aimed at the technical teams involved, both at the national and local levels, by mainstreaming this approach in training and education activities, as well as in the exchange of experiences, lessons learned and knowledge building, identifying and including case studies, lessons learned and communication products on gender and social inclusion, and scheduling workshops with special sessions to discuss and exchange on this particular topic during project implementation (Comp. 5).
323. As part of the activities of Comp. 1, the project will integrate an integral gender perspective and inclusion in the fishing plans, co-management of protected areas and development of tourist attractions, seeking as a result the equitable involvement of men and women in the management of natural resources, through concrete measures to ensure participation in training and education. In addition, we will seek to learn in depth how women living in the project area, both young and adult, are involved in the use and management of these resources (tourism, fishing, protected areas) in order to promote specific actions and enhance the project's actions from a perspective of inclusion. On the other hand, as part of the Interinstitutional Coordination Mechanism, the Ministry of Women and

<sup>74</sup> Data from ECLAC's Gender Equality Observatory for Latin America and the Caribbean, 2021.

<sup>75</sup> Data from ONE based on National Multi-Purpose Household Surveys (ENHOGAR), 2016.

<sup>76</sup> Ibidem, 2018.

<sup>77</sup> Ministry of Women, Dominican Republic.

<sup>78</sup> Carried out under the technical supervision of the National Council for Climate Change and Clean Development Mechanism ("Consejo Nacional para el Cambio Climático y Mecanismo de Desarrollo Limpio", CNCCMDL), the Ministry of Environment and Natural Resources, the United Nations Development Program (UNDP) with funds from the Global Environment Facility (GEF) within the Project "Third National Communication of the United Nations Framework Convention on Climate Change of the Dominican Republic – ("Tercera Comunicación Nacional de la Convención Marco de las Naciones Unidas sobre Cambio Climático de la República Dominicana") TCNCC" by the PLENITUD Foundation. 2016.

<sup>79</sup> <https://cambioclimatico.gob.do/phocadownload/Documentos/cop25/Plan%20de%20G%C3%A9nero%20y%20Cambio%20Clim%C3%A1tico%20-%20RD.pdf>

<sup>80</sup> [Dominican Republic advances in the inclusion of gender equality in its climate change policies \("República Dominicana avanza en la inclusión de la igualdad de género en sus políticas frente al cambio climático"\)](#), November 2023.

the Gender and Climate Change Roundtable will be actively involved, in addition to implementing specific training on the subject for the members of the Mechanism. Monitoring activities will also focus on equitable access to the information generated, as well as on the follow-up of indicators disaggregated by sex and age, when applicable.

324. Comp. 2 on ecosystem restoration proposes training and environmental awareness activities that integrate specific topics on gender perspective and inclusion. The Gender Action Plan will include specific mechanisms to ensure the active participation of women, young and adult, in these activities, as well as the necessary measures to ensure that restoration works are designed and implemented with social inclusion criteria.

325. The project will also seek to generate economic benefits for the local population through livelihood diversification activities (Comp. 3). During the formulation of the full proposal, the activities that the Gender Action Plan will include to enhance and strengthen the role of women in the fishing, tourism and livestock sectors will be analyzed, based on the identification of their specific interests and needs. The tourism and cultural heritage sites that will be reconditioned as part of this project will take into account social inclusion criteria, so that not only visitors will benefit, but also the local population will be able to use them, especially in their management. The project will also promote the role of women as nature tour guides, as well as their role in the fishing trade through training and capacity building activities.

326. As part of the household adequacy mechanism proposed in Comp. 4, specific gender and social inclusion criteria will be defined in the eligibility of housing to ensure that the improvements installed contribute especially to the infrastructure of female-headed households and households inhabited by the elderly.

### **C. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.**

327. The Project includes the Ridge to Reef approach, which consists of considering a broad vision of planning, restoration, implementation of best practices in human and economic activities throughout the basins involved in the project. The activities of the five components are mutually reinforcing to ensure their sustainability and contribute to achieving the desired results by proposing a combination of adaptation investments in hybrid and green infrastructure and capacity building, awareness raising, planning and governance tools to address climate change impacts.

328. To analyze the cost-effectiveness of the measures, we have considered cost criteria, short- and long-term results, environmental and social impact, associated co-benefits, and initial and maintenance budgets, comparing them with possible alternative adaptation measures based on national and international experiences.

329. The activities in Comps. 1 and 5, which include strengthening inter-ministerial governance, resilient livelihoods and co-management plans, improving environmental information systems, capacity building and awareness campaigns, entail low investment with demonstrated long-term effectiveness and sustainability, as well as benefits that would be justified under all future scenarios (typically no-regret options). These measures address key barriers related to governance in the project area, limited capacities to modify social and cultural behaviors, improve resilient production practices, and prevent the loss of ecosystems and jobs.

330. Comp. 2 activities, focused on restoring coastal and marine ecosystems and strengthening upstream basins, are ecosystem-based adaptation solutions that require low initial investment and low-cost maintenance. These proactive measures support key ecosystem services and environmental health benefits while avoiding additional costs.

331. Activity 2.1.1 includes measures to restore coral reefs, seagrasses and mangroves, to reestablish the natural barrier against strong waves, stop the advance of sea level, coastal erosion and saline intrusion, and provide protection against storms and hurricanes, and provide ecosystem resources such as biodiversity, food resources for fisheries, tourist attraction that provides alternative employment for coastal communities and carbon sequestration<sup>81</sup>. The restoration of coral reefs through assisted sexual reproduction has the advantage of providing the genetic diversity necessary to make the reef more resilient to the effects of climate change. Its effectiveness has been demonstrated in the work of FUNDEMAR, who is a pioneer in the implementation of this technique in the country, opened the first assisted reproduction laboratory in 2019 in Bayahibe and launched a guide in 2022 so that other institutions can replicate the efforts<sup>82</sup>. Mangrove and seagrass planting will build on TNC's successful work in Samaná Bay, in Bajo Yuna National Park, where mangroves were planted to strengthen and protect more than 160 hectares of coastline<sup>83</sup>. Alternatives such as the construction of gray infrastructure such as breakwaters or seawalls are more costly and have undesirable negative environmental impacts<sup>84</sup>. Hybrid reefs could also be installed, but they can be costly to implement due to the need for specific materials and advanced technology and require regular

<sup>81</sup> Consultancy for the Development of Socioeconomic Scenarios and Climate Vulnerability and Risk Analysis for the Identification of Adaptation Solutions at the National, Sectoral and Subnational Levels in the Dominican Republic ("Consultoría para el Desarrollo de Escenarios Socioeconómicos y Análisis de Vulnerabilidad y Riesgos Climáticos para la Identificación de Soluciones de Adaptación"), IH Cantabria, 2022

<sup>82</sup> Available at: <https://www.fundemardr.org/manual>

<sup>83</sup> The Caribbean Impact Report 2020. TNC, 2021

<sup>84</sup> Linham et al. Technologies for Adaptation to Climate Change. Coastal Erosion and Flooding ("Tecnologías para la Adaptación al Cambio Climático. Erosión Costera e Inundaciones"), 2010.

maintenance to ensure that they function properly and do not cause environmental risks<sup>85</sup>.

332. In addition, ecological mooring buoys will be installed for fishing and tourist vessels to avoid damage to the seabed caused by anchors and marine marker buoys. This system, in addition to being environmentally beneficial, facilitates the mooring of vessels, since it is faster and simpler than the use of anchors (successful national experience in Bayahibe<sup>86</sup>). The location will be carefully planned, and adequate buoys will be installed for the local marine conditions and the size of the boats. Alternatives such as permanent line mooring systems, floating moorings or low impact anchors have disadvantages in installation costs, maintenance and environmental impact.
333. Activity 2.1.2 will strengthen upstream basins through reforestation with native species and sustainable livestock practices, such as silvopasture. This contributes to the restoration of coastal ecosystems and will address drought and soil erosion in the riverbanks. Reforestation will regulate the hydrological cycle with increased infiltration capacity and runoff reduction, improve water quality, reduce erosion and sedimentation in rivers, and also provide biodiversity and carbon sequestration. silvopasture practices will make it possible to obtain reforestation and cattle raising benefits in the same territory. In addition, this system provides shade for livestock and improves soil and pasture quality, saving costs for water supply and improving the health of livestock<sup>87</sup>. Native herbaceous species will be used, based on successful experiences such as that of the Conservancy in Santo Domingo, where 59,000 native trees were planted with good results<sup>88</sup>. Alternatively, reforestation could be done on productive lands, but would create social conflict, or address the drought with better water use practices or rainwater harvesting or large water treatment constructions, but these practices would not address the system as a whole, nor the erosion and quality of soil and riparian water.
334. The activities of Comp. 3 are accommodation measures (IPCC CZMS, 1990)<sup>89</sup> aimed at developing resilient livelihoods to climate change impacts in the project area, avoiding unsustainable exploitation of the ecosystem and costs for reactive measures such as government subsidies or migration of the population. This will be done based on the development of Component 1 of the Plan for the transition to resilient livelihoods for the fisheries sector and the Plan for the resilient and sustainable development of local tourism and the Co-management Plan, which will allow prioritizing resilient investments.
335. Activity 3.1.1 encourages local ecotourism, promoting sustainability, enhancement of the area and conservation of coastal ecosystems. It generates income for the community, diversifies livelihoods, improves environmental education, and promotes the preservation of flora and fauna diversity and historical heritage. Unlike conventional tourism that focuses on short-term economic growth, ecotourism integrates the local community and promotes responsible practices and environmental awareness among tourists and local communities<sup>90</sup>. The activity involves measures such as communication campaigns, ecotourism training, training of guides and other ecotourism services, and infrastructure improvements including the installation of interpretive equipment, construction of trails for order and care of the trail, and signage to inform and raise awareness. The investment is relatively small with a significant impact when valuing both the structures built and the coastal ecosystem. There are several successful national experiences, but the Saltos de la Damajagua Natural Monument in Puerto Plata stands out<sup>91</sup>.
336. The activity also protects the historical heritage of the first Spanish-American settlement in La Isabela against coastal erosion. A feasibility study has been conducted in the area that identifies gabions as an appropriate measure because they slow coastal cliff erosion by stabilizing the soil immediately, providing structural support, unlike revegetation, which can take time to stabilize the soil<sup>92</sup>. Gabions can adapt to soil movement without losing integrity and do not require as much maintenance. The use of local stones reduces the carbon footprint of their construction and encourages the growth of vegetation, allowing for a natural and pleasing appearance. Compared to other construction materials, gabions are relatively inexpensive and easy to install and reduce labor costs. The project will update the study to ensure that this is the best alternative. This is a USP, which will include cost-effectiveness criteria in the prefeasibility analysis.
337. Activity 3.1.2 seeks to resiliently diversify the livelihoods and production of fishers to address the impacts of climate change and overexploitation, protecting marine habitats without leaving fishers without work alternatives and without harming food security, which would have major negative social impacts. The best sustainable fishing practices will

<sup>85</sup> <https://singularityhub.com/2021/09/30/a-hybrid-coral-reef-in-mexico-is-using-energy-from-waves-to-turn-sea-salt-to-rock/>

<sup>86</sup> <https://www.redarrecifaldominicana.org/instalacion-de-boyas-de-senalizacion-marina-en-bayahibe/>

<sup>87</sup> MMARN, Technical Guide on Good Environmental and Social Practices of Silvopasture Systems: Arborización in Livestock Farms in the Framework of REDD+ in the Dominican Republic ("Guía Técnica de Buenas Prácticas Ambientales y Sociales de Sistemas Silvopastoriles: Arborización en Fincas Ganaderas en el Marco de REDD+ en República Dominicana. Proyecto de Preparación para REDD+"). REDD+ Readiness Project ("Proyecto de Preparación para REDD+"). Forest Carbon Partnership Facility ("Fondo Cooperativo para el Carbono de los Bosques") / World Bank Group. Santo Domingo, Dominican Republic, 2022

<sup>88</sup> The Caribbean Impact Report 2020. TNC, 2021

<sup>89</sup> IPCC CZMS (1990). Strategies for Adaptation to Sea Level Rise. Report of the Coastal Zone Management Subgroup. Intergovernmental Panel on Climate Change. Response Strategies Working Group.

<sup>90</sup> Orgaz Agüera, F., Ecotourism as an engine of development in rural areas: a case study in the Dominican Republic ("El ecoturismo como motor de desarrollo en zonas rurales: un estudio de caso en República Dominicana."). *Ciencia y Sociedad*, 2015.

<sup>91</sup> Orgaz Agüera, F. and Moral Cuadra, S., Protected areas as spaces to foster sustainable development and community-based tourism. A successful case study ("as áreas protegidas como espacios para fomentar el desarrollo sostenible y el turismo comunitario. Un estudio de caso exitoso"), *Revista DELOS: Desarrollo Local Sostenible*, n. 20, 2014.

<sup>92</sup> Huynh, L.T.M., Su, J., Wang, Q. et al. Meta-analysis indicates better climate adaptation and mitigation performance of hybrid engineering-natural coastal defense measures. *Nat Commun* 15, 2870, 2024

allow them to maintain their work, but being more respectful of the environment, while the organization of fishing cooperatives will allow them to receive better income for their activity and more accessibility to fish for community households. The ecotourism alternative takes advantage of the fishing boats for tourism activities, allowing for a productive and sustainable use of the environment and creating jobs with better earnings. Aquaculture was also analyzed as an attractive alternative livelihood activity, especially for integrating women into this sector. These activities are preferred by local fishermen because of tradition and perceived earnings. In addition, special fishing areas will be created that have the advantage of favoring sustainable recovery, maintaining biodiversity and facilitating the zoning of marine space for different uses (fishing, conservation, recreation), reducing conflicts and protecting critical habitats and livelihoods, compared to a total fishing ban. In addition, they involve communities in their planning and management, fostering ownership and responsibility. A successful national experience is found in La Caleta National Underwater Park (“Parque Nacional Submarino La Caleta”)<sup>93</sup>.

338. Activity 4.1.1 consists of installing solar panels and planting trees to cope with heat waves and improve the quality of life and health of resident households. This alternative was prioritized because solar panels and trees improve thermal comfort by providing shade and reducing the carbon footprint. In addition, solar panels reduce energy costs, reduce dependence on non-renewable energy sources, and are resilient to power outages resulting from increased demand due to heat waves. Planting trees helps improve air and soil quality and contributes to urban biodiversity. Alternatives to this approach include improving the quality of housing construction but require significant initial investment and structural modifications. Other options, such as reflective or thermal roofs (less expensive) or green roofs and green roofs (similar cost), do not offer the benefits of energy generation and carbon footprint reduction<sup>94</sup>.
339. The project will establish monitoring, evaluation and learning mechanisms that will be reinforced by the registration systems that will be developed with the project. This will generate valuable knowledge that will serve as a basis for sustainability, facilitating learning and replication of experiences.
340. The project seeks to leverage the human and technical resources of the public sector to carry out activities, utilizing and strengthening existing structures, while ensuring the integration of climate change and adaptation solutions. This contributes to sustainability and efficient use of resources.
341. The project will continue to deepen the cost-effectiveness analysis and provide quantitative estimates at the Full Proposal stage.

**D. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.**

342. This project is aligned with national and subnational sustainable development strategies and contributes to the implementation of the country's climate change policies and strategies. The **National Climate Change Policy (NCCP)**, created in 2016, is a strategic document with measures up to the 2030 horizon that was conceived as the country's short-, medium- and long-term action guidelines for adaptation and mitigation of the challenges posed by climate change. There are other previous documents that were developed with the same objective, such as the **National Development Strategy 2030 (NDS 2030)** published in January 2012, which establishes the country's long-term vision and sustainable development goals, providing a comprehensive framework for the country's development until 2030.
343. It is also highlighted that National Communications to the United Nations Framework Convention on Climate Change (UNFCCC) are critical to support the alignment of projects with sustainable development strategies. The **First National Communication** was submitted in 2003, the Second in 2009, the Third in 2017 and the **Fourth in 2020**. These communications provide a comprehensive analysis of greenhouse gas emissions and the mitigation and adaptation actions undertaken by the country.
344. The Dominican Rep. submitted its First **Nationally Determined Contribution (NDC)** in 2015 and its corresponding update in 2020 in which it increased its climate ambition with a commitment to reduce emissions by 27% by 2030, compared to the same base year 2010. This update includes clearer and more transparent measures in the planning and execution of climate actions.
345. The project is aligned with several of the climate change adaptation priorities of the Tourism and Coastal-Marine Resources Sector indicated in the **NDC-RD-2020**:
- Maintenance and restoration of coastal-marine ecosystems (mangroves, reefs, dunes).
  - Define the country's tourism activity within the framework of environmental, sociocultural and economic sustainability, with a focus on adaptation to climate change.

<sup>93</sup> Sustainable community management of La Caleta National Underwater Park. Available at: <https://www.ideassonline.org/public/pdf/BrochureCaleta.pdf>

<sup>94</sup> Consultancy for the Development of Socioeconomic Scenarios and Climate Vulnerability and Risk Analysis for the Identification of Adaptation Solutions at the National, Sectoral and Subnational Levels in the Dominican Republic, IH Cantabria, 2022.

- Promote resilient tourism destinations: diversify the tourism offer from sun and beach to other segments such as adventure, nature, ecotourism and health tourism.
- Sustainable and safe coastal management with a focus on climate change.
- Prevention, mitigation and remediation of coastal and beach pollution with a focus on enforcement and compliance to reduce vulnerability and increase resilience of coastal/marine systems.
- Manage a fund for the recovery of mangroves, estuaries, coral reefs and other coastal-marine ecosystems and species, to help increase resilience to the effects of climate change and variability.
- Promote the production of marine data, products and metadata to make them more available to public and private users who rely on marine data, standardized and harmonized with quality assurance.

**E. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.**

**Table 1.** National laws that must be complied with in all types of project activities.

<p><b>Environmental and climate change laws:</b></p> <ul style="list-style-type: none"> <li>- Constitution of the Dominican Republic: Establishes the need for adaptation to climate change in its article 194, where it states that: “It is a priority of the State the formulation and execution, by law, of a land use plan that ensures the efficient and sustainable use of the natural resources of the Nation, in accordance with the need for adaptation to climate change”.</li> <li>- General Law of Environment and Natural Resources (Law 64-00): This law establishes the general framework for the protection of the environment and natural resources, including coastal and marine areas. It also establishes a protection zone of 60 meters from the maximum high tide line towards the interior of the territory. This strip is considered as maritime-terrestrial public domain.</li> <li>- Protected Areas Law (Law 202-04): Provides the framework for the creation and management of protected areas, many of which are located in coastal areas. There are marine-coastal protected areas under protection figures such as marine reserves and marine mammal sanctuaries.</li> <li>- Fisheries and Aquaculture Law (Law 307-04).</li> <li>- Decree No. 269-15, dated September 22, 2015, National Climate Change Policy.</li> <li>- National Adaptation Plan for Climate Change in the Dominican Republic 2015-2030 (2016).</li> <li>- Resolution No. 5/10 – Amends Resolution No. 6/04, Regulation of the Environmental Permitting and Licensing System, Procedure for Environmental Assessment of Existing Facilities and Procedure for Environmental Impact Assessment for New Projects.</li> <li>- Law No. 436 – Amends Law No. 5.852 on land water domain and public water distribution.</li> <li>- Resolution N° 18/07 – Regulations for environmental control, surveillance and inspection and the application of administrative sanctions.</li> <li>- Law No. 57/18 Forestry Sector Law of the Dominican Republic and Forestry Regulations (Decree 11/2007): regulate and promote sustainable forest management of forests, ensuring their conservation, as well as the protection of other natural resources that are part of their ecosystems, maintaining their biodiversity and regeneration capacity.</li> </ul>	<p><b>Laws and strategies with an impact on women’s rights:</b></p> <ul style="list-style-type: none"> <li>- Law No. 24-97 on Domestic Violence and Violence against Women.</li> <li>- National Gender Equality Plan (PLANEG III).</li> </ul> <p><b>Others:</b></p> <ul style="list-style-type: none"> <li>- Law No. 1-12 on the 2030 National Development Strategy.</li> <li>- Law No. 158-01. Law for the Promotion of Tourism Development (amended Law 195-13): Promotes and guarantees sustainable tourism.</li> <li>- Housing improvement: Law 57-07 on incentive to renewable energies and special regimes.</li> </ul> <p><b>Inclusion and access to information:</b></p> <ul style="list-style-type: none"> <li>- Law No. 5-13 on disability in the Dominican Republic and its Decree No. 363-16: protects and guarantees equal rights and equal opportunities for all persons with disabilities.</li> <li>- Law No. 49/2000 National Youth Policy and its Regulations: to promote the comprehensive development of young people regardless of gender, religion, political, racial, ethnicity, sexual orientation, and nationality, and Institutional Strategic Plan 2021-2024 (Ministry of Youth).</li> <li>- General Law of Free Access to Public Information (No. 200-04) and its regulations (Decree No. 130-05).</li> </ul> <p><b>Protection and conservation of cultural heritage:</b></p> <ul style="list-style-type: none"> <li>- Law No. 41-00, which creates the Ministry of Culture, and promotes and preserves the tangible and intangible cultural heritage, including tangible goods of movable or immovable nature, including those submerged in water, as well as the values, traditions, customs, practices, habits and, in general, cultural manifestations.</li> <li>- Archaeological research regulations: procedures to be complied with regarding archaeological research, including any action carried out on archaeological property or on an archaeological environment, context or site, such as archaeological research projects for scientific interest; archaeological evaluation projects and rescue or salvage projects.</li> </ul>
<p><b>Labor rights, health and safety laws:</b></p> <ul style="list-style-type: none"> <li>- Law 16/92 Labor Code and complementary norms, regulates the rights and obligations of employers and workers.</li> <li>- Law No. 87-01 which creates the Dominican Social Security System related to the reciprocal rights and duties of the State and citizens regarding the protection of the population against the risks of old age, disability, unemployment due to advanced age, survival, illness, maternity, childhood and occupational hazards.</li> <li>- Decree No. 522/06 Occupational Safety and Health</li> </ul>	<p><b>Laws or regulations related to children:</b></p> <ul style="list-style-type: none"> <li>- The Constitution of the Dominican Republic establishes the effective protection of the rights of the person and the respect of dignity, in Art. 56 it establishes the protection of minors and also declares the eradication of child labor to be of the highest national interest.</li> <li>- Law 16/92 Labor Code and complementary norms, establish minimum working age; minimum age for hazardous work; identification of hazardous occupations or activities prohibited for children.</li> </ul>

<p>Regulations: regulates the conditions under which productive activities must be carried out at the national level, to prevent accidents and damage to health resulting from work.</p> <ul style="list-style-type: none"> <li>- Guide to Labor Rights for Equal Opportunity and Non-Discrimination, from the Ministry of Labor.</li> </ul>	<ul style="list-style-type: none"> <li>- Law 136/2003 Code for the Protection of the Rights of Children and Adolescents<sup>95</sup>, establishes: comprehensive protection of children in Dominican territory.</li> <li>- Law 137/03 on smuggling of migrants and trafficking in persons, criminalizes sex trafficking and trafficking in persons.</li> </ul>
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**Table 3.** Regulations by intervention type.

Comp.	Intervention types	Applicable regulations
1	Strengthening of inter-ministerial coordination and planning	National Climate Change Policy (Decree No. 269-15). National Adaptation Plan for Climate Change 2015-2030. General Law of Environment and Natural Resources (Law 64-00). Protected Areas Law (Law 202-04).
2	Strengthening of terrestrial and marine ecosystems	<p><b>General:</b> Labor Code and complementary norms (Law 16/92). Code for the Protection of the Rights of Children and Adolescents (Law 136/2003). Guide of Labor Rights for Equal Opportunities. Law on Disability in the Dominican Republic (Law No. 5-13) and its decree (No. 363-16). National Youth Policy and its regulations (Law No. 49/2000) and Institutional Strategic Plan 2021-2024 (Ministry of Youth). Law on Domestic Violence and Violence against Women (Law No. 24-97) and the National Gender Equality Plan (PLANEG III).</p> <p><b>Restoration and conservation of coastal ecosystems:</b> General Law on Environment and Natural Resources (Law No. 64-00) and the Regulations of the System of Environmental Permits and Licenses, Procedure; Law on Protected Areas (Law 202-04); Law on Fishing and Aquaculture (Law 307-04): Regulations for environmental control, surveillance and inspection (Resolution No. 18/07); General Law on Environment and Natural Resources (Law No. 64-00). <b>Reforestation of Upstream Basins:</b> Sectoral Forestry Law of the Dominican Republic (Law No. 57/18) and Forestry Regulations (No.11/2007). General Law on Environment and Natural Resources (Law No. 64-00).</p>
3	Strengthening and diversification of the population's livelihoods	<p><b>General (Component 2)</b></p> <p><b>Protection and reinforcement of cultural heritage:</b> Law that creates the Ministry of Culture (Law No. 41-00) and the Regulation of Archaeological Investigations. Improved sustainable fishing practices and livelihoods: General Law on Environment and Natural Resources (Law 64-00) and the Regulations of the Environmental Permits and Licenses System, Procedure; Law on Protected Areas (Law 202-04); Law on Fishing and Aquaculture (Law 307-04): Regulations for Environmental Control, Surveillance and Inspection (Resolution No. 18/07).</p> <p><b>Tourism:</b> Law No. 158-01. Law for the Promotion of Tourism Development (mod. Law 195-13). Labor Code and complementary norms (Law 16/92). Code for the Protection of the Rights of Children and Adolescents (Law 136/2003), Law on Smuggling of Migrants and Trafficking of Persons (Law 137/03). Law on Disability in the Dominican Republic (Law No. 5-13) and its decree (No. 363-16). National Youth Policy and its Regulations (Law No. 49/2000).</p> <p>Protection of homes against heat waves: Renewable energy incentive law and special regimes (Law 57/07)</p>
4	Increasing the well-being and quality of life of the local population	<p><b>General (Component 2)</b></p> <p><b>Protection of homes from heat waves:</b> Law on incentives for renewable energies and special regimes (Law 57/07); permits for the installation of solar panels to be requested from the municipality and the electric company EDENORTE.</p>
5	Training, education, sensitization	Constitution of the Dominican Republic. Guide to Labor Rights for Equal Opportunities. Law on Disability in the Dominican Republic (Law No. 5-13) and its decree (No. 363-16). National Youth Policy and its regulations (Law No. 49/2000) and Institutional Strategic Plan 2021-2024 (Ministry of Youth). General Law of Free Access to Public Information (No. 200-04) and its regulation (Decree No. 130-05).

**F. Describe if there is duplication of project/programme with other funding sources, if any.**

346. The development of this concept note has taken care to carefully identify existing or planned initiatives in the project area, always coordinating with MMARN and CAF and addressing the issue throughout the virtual bilateral meetings and during the mission to the territory, with the various stakeholders.
347. As background for the formulation of this proposal, the study "Climate change risk analysis of the coastal-marine systems of the Dominican Republic" was carried out by the DAI consulting firm during the technical assistance financed by the French Development Agency (AFD) within the framework of the Adapt'Action Fund. It constituted the first stage of the project "Vulnerability of the coastal zones of the Dominican Republic" and includes *four specific investigations*: (1) *A characterization of the coastal-marine zones of the DR based on the compilation of existing data*, (2) *An analysis of climate change trends and projections for the DR*, and (3) *An estimation of potential environmental and socioeconomic impacts of potential future climate change in the DR*. Finally, the (4) *ecosystem-*

<sup>95</sup> National legislation considers children to be all persons from birth to 12 years of age, and adolescents to be all persons from 13 years of age until they reach the age of majority.

based climate risk assessment (Eb-CRA) was conducted, for which as many stakeholders, experts and decision makers as possible were consulted on the prioritization of climate risks for the Dominican Republic.<sup>96</sup>

348. The present project capitalizes on the experience of the province of Puerto Plata in past years, which has been the implementation of two projects financed by JICA. The area prioritized for the present proposal was included in them. The first, TURISOPP (2009-2013)<sup>97</sup>, was designed to generate local development through public-private partnerships for **community tourism** development. Given the good results, JICA wanted to finance a second part (2016-2021)<sup>98</sup> focused on sustainable community tourism, aimed at replicating the model throughout the north of the country, in the Cibao. Historic Isabelia is not the first time it has been taken into account, but for more than 10 years it has been trying to achieve development. With the first project, workshops were held to identify local resources and map stakeholders. A brand called "Origin of the Americas" ("Origen de las Américas") was created, where a tour called "Aula viva" was created, involving young people in ecological, historical and cultural-gastronomic interpretation. Artisans were also trained. In Estero Hondo, guides related to the manatees were trained, although only three are still offering interpretive tours. One of them has become the park administrator. These projects made great progress but did not achieve solid continuity. This project is taking lessons learned from this experience to ensure continuity after the intervention is completed.
349. Regarding **water scarcity** in the area, this project has avoided superimposing actions to counteract it since the State is building an aqueduct to supply water to the population of the project area. For this reason, it is not including any action in this regard and focuses the fight against drought on other aspects such as reforestation.
350. Actions related to **mangrove** restoration will take and continue the experience of The Nature Conservancy (TNC), which has been carrying out restoration in Estero Hondo together with MMARN for the past year.
351. Actions related to the reinforcement of **corals, seagrasses and marine mammals** will be based on the experience developed by FUNDEMAR since 1991<sup>99</sup>. This foundation carries out several restoration projects in the country, in coordination with MMARN. Today, FUNDEMAR is **monitoring manatees with drones in the Estero Hondo Marine Mammal Sanctuary**. The team formulating this proposal was able to observe in situ the work being done to identify the individuals and discuss the needs for the proper protection and conservation of these species. This project will be based on this experience and others carried out in other parts of the country and the Caribbean. This will be facilitated by FUNDEMAR, which works in a network with other centers such as the one in Florida, United States, where the manatee population has increased significantly. On the other hand, FUNDEMAR has had a **coral reef restoration** program since 2012, which includes coral nurseries, rescue centers and transplant areas, as a mechanism to promote the resilience of corals in the face of climate change. FUNDEMAR has also worked with seagrass restoration.
352. Support for the implementation of the **co-management scheme** provided by the project will follow the decisions that have been made in its development and will be based on the same references as the MMARN: the co-management schemes of the **Saltos de La Damajagua Natural Monument and the Jamao protected area**, both in the province of Puerto Plata.
353. The **training courses** to be provided will be organized in conjunction with **INFOTEP**, an institution that has developed over the last few years a wide variety of courses related to hotel management, catering, tourism, languages and tour guides<sup>100</sup>. Contrary to duplication, the project will seek synergies and take advantage of INFOTEP's existing capacities to promote access to these options for the population of the project area. Regarding the specific needs to be a nature guide and cultural guide in the project area, it will also articulate with INFOTEP to design the related content.
354. Likewise, the project will build on the experience of educational and awareness-raising activities will be organized taking lessons learned from **MMARN's environmental education programs**<sup>101</sup>. Through the Environmental Education Directorate, it offers non-formal and informal environmental education programs in coordination with public and private institutions, non-governmental organizations, and community entities. Among the topics it brings to the different stakeholders are climate change and respect for ecosystems, disseminating knowledge and information through talks, workshops and playful educational dynamics aimed at raising the level of environmental awareness of the Dominican population.
355. In the next stage of preparation of the Full Proposal, the formulating team will explore the experiences related to the project financed by the **Adaptation Fund** in the country "Increasing Climate Resilience in the Province of San Cristóbal" ("Aumento de la Resiliencia Climática en la Provincia de San Cristóbal")<sup>102</sup>, with which it is confirmed that there is no geographical or temporal overlap (closing scheduled in July 2024), nor thematic overlap, since this

<sup>96</sup> DAI 2022, "Climate change risk analysis of the coastal-marine systems of the Republic" ("Análisis de riesgo ante el cambio climático de los sistemas costero-marinos de la República").

<sup>97</sup> Sustainable Tourism Project based on Public-Private Participation ("Proyecto de Turismo Sostenible basado en la Participación Público-Privada")

<sup>98</sup> [Project for Strengthening the Mechanism for Community-Based Sustainable Tourism Development in the Northern Region \("Proyecto para el Fortalecimiento del Mecanismo de Desarrollo del Turismo Sostenible Basado en la Comunidad en la Región Norte"\)](#)

<sup>99</sup> [FUNDEMAR's experience](#)

<sup>100</sup> [INFOTEP course catalog](#)

<sup>101</sup> [Web page on MMARN's environmental education activities](#) (accessed May 2024).

<sup>102</sup> [Enhancing Climate Resilience in San Cristóbal province, Dominican Republic Integrated Water Resources Management and Rural Development Programme](#)

project was focused on integrated water resources management. There are common activities from which lessons will be learned, such as those dedicated to reforestation to increase water reserves. There will also be a reflection on the lessons learned from the implementation of a project financed by the Adaptation Fund in the country.

356. Regarding **GEF** projects, it is confirmed that none of the projects approved under the Climate Change theme overlap with the proposed intervention. Project 10,054 on climate-smart livestock management could provide some lessons on working with cattle ranchers; however, it was oriented towards GHG mitigation in the Yuna Camú basin, which is distant from the project area. Project 10,216 on integrated landscape management does not overlap with the proposed project either, as it is being implemented in other basins in the country. However, its experience with the restoration of degraded agricultural lands and agroforestry projects could be taken into account. The two adaptation projects financed by the **GCF** (FP097 and FP174) are also focused on the agricultural sector, which is not the main objective of this proposal as it will only be involved to promote reforestation. Lessons learned from these types of investments will be considered.

### **G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.**

357. Knowledge management within the framework of the project will be aimed at systematizing information, generating evidence and lessons learned for dissemination.

358. In Comp. 5 of the project, specific training and awareness-raising activities will be carried out for key institutional and local stakeholders. These actions include communication and capacity building campaigns to raise awareness on climate change, protected areas and climate change adaptation to improve the resilience of coastal ecosystems. Case studies, communication materials and knowledge products, such as videos, will be developed to disseminate information in an accessible way. In addition, there will be exchange of experiences at the regional level, reflection and learning workshops to foster dissemination and replication of adaptation activities.

359. Within Comp. 1 of the Project, activities have been planned to strengthen the collection, recording, systematization and monitoring of climate change impacts on coastal and marine resources, as well as on the livelihoods of the tourism sector. These actions seek not only to improve recording, but also the processing of information, creating visual and educational tools to facilitate evidence-based decision making by government and policy makers. The aim is to increase the resilience of ecosystems and local livelihoods to threats such as heat waves, drought and coastal erosion. This information will also be useful for Comp. 5 awareness raising and training activities throughout project implementation, benefiting local decision makers, government institutions and the general population.

360. Within Comp. 3, focused on strengthening and diversifying livelihoods, actions will be carried out to train local people in new ecotourism developments, preparing them to act as local guides and promote the cultural and natural heritage of protected areas. The capacities of artisanal fishermen will also be strengthened to diversify their livelihoods, promoting sustainable practices such as aquaculture and mariculture, while respecting closed areas. Comp. 2, ecosystem restoration, will work with agricultural producers in silvopasture systems as a measure to adapt to droughts. The focus will be on generating lessons learned and recorded results for dissemination among local producers, encouraging the adoption and replication of similar practices.

361. Finally, the project will also have a monitoring, evaluation and learning system that will be used to ensure the recording of key information, the use of this information for management purposes and to generate lessons learned not only from the successes of the project but also from the challenges and implementation strategies that worked to overcome them. This will be shared with key stakeholders and is expected to be capitalized on in future experiences, allowing a **culture of continuous learning** to be generated with project stakeholders.

### **H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.**

362. The formulation of this project has been led by MMARN – the National Designated Authority to the Adaptation Fund – and CAF, Development Bank of Latin America.

363. The study “Climate change risk analysis of the Dominican Republic's coastal-marine systems” (“Análisis de riesgo ante al cambio climático de los sistemas costero- marinos de la República Dominicana”) conducted by DAI during the technical assistance financed by the French Development Agency (AFD) within the framework of the Adapt'Action Fund can be mentioned as background for the formulation of this proposal. This was the first stage of the “Vulnerability of the Dominican Republic's coastal zones” project and included consultations with as many stakeholders, experts and decision-makers as possible on the prioritization of climate risks for the Dominican Republic.<sup>103</sup>

<sup>103</sup> DAI 2022, “Climate change risk analysis of the coastal-marine systems of the Republic”.

364. In the framework of the formulation of this concept note, consultations were conducted in five main instances between February and May 2024: 1) Inception workshops with key national stakeholders; 2) Weekly meetings with government stakeholders; 3) Origination mission with field trip, which included interviews with representatives of the local population and a workshop and validation with local governments; and 4) Additional virtual bilateral consultations with representatives of governmental and non-governmental organizations.

365. Table 3 lists all the stakeholders that were consulted throughout the above-mentioned instances. In total, 95 people (59% women) were consulted during this stage, including 27 from the national government (78% women), 49 from local governments (53% women) and 19 representatives of associations and local people (47% women).

**Table 3.** Stakeholders consulted during the concept note preparation stage.

Ministry of Environment and Natural Resources	<ul style="list-style-type: none"> <li>Protected Areas Directorate (“Dirección de Áreas Protegidas”)</li> <li>Direction of Financial Mechanisms and Portfolio Management (“Dirección de Mecanismos Financieros y Manejo de Portafolio”)</li> <li>Climate Change Adaptation Department (“Departamento de Adaptación al Cambio Climático”)</li> <li>Vice-Ministry of Protected Areas and Biodiversity (“Viceministerio de Áreas Protegidas y Biodiversidad”)</li> <li>Directorate of Coastal and Marine Resources (“Dirección de Recursos Costeros y Marinos”)</li> <li>Ecotourism and Public Use Department (“Departamento de Ecoturismo y Uso Público”)</li> <li>Administration of the La Hispaniola National Park protected area</li> <li>Administration of the Estero Hondo Marine Mammal Sanctuary protected area</li> </ul>	
Ministry of Tourism	<ul style="list-style-type: none"> <li>Vice-Ministry of Destination Management (“Viceministerio de Gestión de Destinos”)</li> <li>Directorate of Provincial Tourism Initiatives (“Dirección de Iniciativas Turísticas Provinciales”)</li> </ul>	
Ministry of Culture	<ul style="list-style-type: none"> <li>National Office of Underwater Cultural Heritage (“Oficina Nacional de Patrimonio Cultural Subacuático”)</li> <li>National Directorate of Monumental Heritage (“Dirección Nacional de Patrimonio Monumental”)</li> </ul>	
Ministry of Agriculture	<ul style="list-style-type: none"> <li>CODOPESCA</li> </ul>	
Ministry of the Presidency	<ul style="list-style-type: none"> <li>ANAMAR</li> </ul>	<ul style="list-style-type: none"> <li>INDRHI</li> </ul>
Municipal governments	<ul style="list-style-type: none"> <li>Municipal District of La Isabela</li> <li>Municipal District of Estero Hondo</li> </ul>	<ul style="list-style-type: none"> <li>Municipality of Luperón</li> </ul>
Non-governmental organizations	<ul style="list-style-type: none"> <li>TNC</li> <li>FUNDEMAR</li> </ul>	<ul style="list-style-type: none"> <li>ECORED</li> <li>Propagas Foundaton</li> </ul>
Private sector	<ul style="list-style-type: none"> <li>Juri-Dueño restaurant de playa en La Isabela</li> </ul>	<ul style="list-style-type: none"> <li>Fricolandia – La Isabela</li> </ul>
Representatives of the local population	<ul style="list-style-type: none"> <li>Estero Hondo: Focus group with women from the community</li> </ul>	<ul style="list-style-type: none"> <li>La Isabela: Neighbors</li> </ul>

366. With all these stakeholders, it was possible to validate the threats and impacts of hurricanes, changes in sea conditions, coastal erosion and drought exacerbated by climate change, as well as the non-climatic issues found in each of the prioritized areas. Needs for institutional strengthening and monitoring of different variables and impacts of adaptation measures were identified. All possibilities in terms of adaptation measures were also discussed. Some of the issues discussed with representatives of the local population provided a better understanding of the impacts of heat waves and drought, loss of beaches, dependence on tourism as a livelihood and source of local income, poor practices related to waste and sanitation, lack of opportunities for young people. Thanks to these numerous joint analyses between the technical teams and the reality of the territory, the measures included in this concept note were defined.

367. In the development stage of the complete proposal, progress will be made in the discussions with the entities and organizations mentioned in the previous paragraph and will be extended to other stakeholders to delve into technical and budgetary details of the prioritized measures. Also, during the next stage, the Environmental and Social Management Plan will be developed, which will include a Stakeholder Consultation Plan aligned with the provisions of the Environmental and Social Policy of the Adaptation Fund. Consultations will also be held with organizations and agencies with competence in gender issues in order to validate the activities and design the Gender Action Plan that orients the activities to the specific gender needs identified.

### **I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.**

368. In formulating this proposal, careful consideration has been given to the non-duplication and complementarity of the project with other initiatives, as described in section F. In addition, care has been taken to ensure that project activities can generate adaptation results independently. It is important to note that none of the proposed activities

are dependent on additional investments from other sources or stakeholders. These activities are focused on specific groups and areas in order to ensure verification of adaptation results.

369. The following are the scenarios with and without AF funding for each project component.

*Component 1. Strengthen planning and monitoring of coastal and marine areas*

370. Baseline: There is a recognized limitation in the coordination between the ministries responsible for the prioritized protected areas (MMARN, MITUR and the Ministry of Culture). As a result, several initiatives have not been promoted or sustained over time in the project area. On the other hand, there are currently no plans to regulate the activities and uses of the resources by the tourism and fishing sectors, and the protected areas are seeking to develop co-management schemes, without much progress. Although different ministries and non-governmental organizations have some measurements of variables in the area, there are still important limitations in the monitoring systems for coastal dynamics, drought, fauna and deforestation, and the records of extreme events are not automated. In addition, the population has little knowledge of its environment and the impacts of climate change.

371. With AF funds: The project will generate an inter-ministerial coordination mechanism to ensure that the proposed actions have the support of all relevant ministries and guarantee their sustainability over time. With project funds, plans will be developed to organize activities and accelerate the definition of protected area co-management schemes. Finally, the project will devote significant efforts to the development of monitoring systems.

*Component 2. Strengthen terrestrial and marine ecosystems in the face of climate change impacts*

372. Baseline: There is a marked lack of funding to invest in restoration measures for coastal ecosystems (including corals, mangroves and grasslands) that are severely affected by climate change; as well as terrestrial ecosystems that have been degraded by human activities in the past and are now more exposed and vulnerable to climate change.

373. With AF funds: The project will help restore coastal-marine and terrestrial ecosystems.

*Component 3. Strengthen and diversify the livelihoods of the local population*

374. Baseline: In terms of tourism, there is great potential for developing ecotourism, respectful of nature, and cultural tourism as an alternative to sun and beach tourism. At the same time, the local population, especially young people, find themselves without job opportunities and therefore end up migrating to other areas of the country or abroad. On the other hand, the fishing sector is having serious difficulties in finding commercial species due to overfishing and changing sea conditions due to climate change and, finding no alternative, they continue to fish in more remote areas and do not respect fishing bans.

375. With AF funds: Investments will be made to implement a community-based ecological and cultural tourism plan that will revalue the points of interest and provide opportunities for the local population, especially young people. It will also help fishermen improve their practices and diversify into other productive activities related to their knowledge.

*Component 4. Improve housing to contribute to the wellbeing and health of the local population in the face of heat waves*

376. Baseline: Housing is not prepared to withstand increasingly frequent and intense heat waves, and the most vulnerable people, particularly the elderly, are severely affected in terms of health and well-being.

377. With AF funds: It is proposed to intervene in the houses with a combination of trees for the patios and solar panels to shade the roofs while generating electricity – an important co-benefit, considering that its supply is frequently interrupted.

*Component 5. Build capacities of key stakeholders and strengthen knowledge on climate change*

378. Baseline: There is a lack of a comprehensive understanding of climate change and its risks and adaptation measures among most of the stakeholders in the project area. In addition, there are few instances of knowledge sharing.

379. With AF funds: Awareness-raising, sensitization and capacity building will be contributed to both the local population and key project stakeholders, including civil society organizations, the private sector and governmental actors. It also seeks to generate lessons learned, systematize experiences and use all the information generated by the project to promote the exchange and dissemination of knowledge.

**J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.**

380. For the sustainability of the project, several elements have been considered in the design of the activities aimed at strengthening capacities and good practices, monitoring and making decisions based on evidence of climate change impacts and improving livelihood planning in the project area. The activities thus include the following aspects that are expected to contribute to the sustainability of project results over time:

- **Capacity building of governmental entities** that will have permanence in the territory and will be able to use the knowledge obtained over time and replicate it in their public government functions. Capacity building

includes training and technical assistance and the installation of systems to record coastal-marine dynamics, as well as key data for monitoring climate change impacts of drought, and to contribute to the monitoring of marine-coastal biodiversity and protected areas. This will allow to strengthen the practices of supervision, monitoring and real-time evidence-based decision making, and ensures that climate change aspects are considered in future interventions.

- **Strengthening the planning** of the fisheries, tourism and protected areas sectors through the co-management scheme considering climate change impacts. Planning will generate long-term strategies, integrating ecosystemic, economic, climatic, gender and social aspects. This allows for a comprehensive territorial and sectoral vision, ordering investment needs with sustainability and climate adaptation criteria. Although the project will cover some investment needs, a pathway will be established for future interventions to strengthen the resilience of protected areas and livelihoods. Co-management will create co-responsibility among stakeholders and contribute to long-term sustainability.
- **Articulation of activities with private sector stakeholders.** In this sense, the project will work on three axes:
  - Enhance the visibility/tourist interest that already exists in the area. The project area is bordered by two tourist destinations that currently receive a significant influx of international tourism: Punta Rucia and Fricolandia. Currently, the Estero Hondo Marine Mammal Sanctuary and La Hispaniola National Park do not benefit from this influx because they do not offer an attractive visitation experience. The project will work with these stakeholders to promote the creation of a single ticket to leverage tourism inflows for new developments.
  - Promote joint work with private stakeholders such as Fricolandia, who were very interested in promoting the revaluation of the area in order to offer a better experience for tourists. In this sense, during the execution of the activities, they will be involved and sensitized to learn about the benefits of the various ecosystem restoration and recovery activities, in the hope of obtaining long-term support to continue promoting and sponsoring similar actions.
  - Dissemination of lessons learned for replication: Project activities, such as silvopasture management will allow the generation of learning and evidence of the benefits for this economic activity by applying adaptation measures. These and other actions will be disseminated among producers in the area to encourage replication and scaling up at the private level.
- Implementation of activities in **coordination with existing programs**, ensuring **complementarity** with other projects and programs that will be able to continue supporting and monitoring similar activities once the project activities are completed. The project will work in coordination with CODOPESCA, which has been operating for more than 20 years in the Dominican Republic, the MMARN, which carries out capacity building and awareness programs on climate change, is responsible for the administration and supervision of national parks and coastal and marine resources, the MITUR, which accompanies the development of tourism projects throughout the country, the Ministry of Culture, Civil Defense, and private organizations such as FUNDEMAR and TNC.
- Strengthening of **systems for recording, monitoring and use of information for decision-making.** By strengthening these systems, information will be generated, which in turn will be disseminated and analyzed for decision-making, reflection and learning about what works and what does not, thus working on a culture of continuous learning that capitalizes on best practices and allows scaling up what, according to the evidence, works best.
- The project has a strong component of **sensitization and involvement of the population** in the monitoring of adaptation measures to help civil society understand the benefits, preserve and replicate these actions.
- **Interinstitutional agreements** for sustainability: work will be done on an interministerial coordination component for the management of protected areas and coastal-marine resources in a more comprehensive manner in the project area. In addition, work will be done to achieve commitments, determine roles and responsibilities for the maintenance of the project's investments and actions.

381. The project will promote training and **communication strategies based on local practices**, cultural and social norms that can **effectively promote behavioral change** and ensure greater acceptance and commitment of the local community in the implementation of the proposed measures.

## **K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project/programme.**

382. This preliminary analysis of the Project's impacts and risks takes into account the AF's Environmental and Social Policy and Principles, and CAF's Environmental and Social Safeguards. Based on the location, type, scale of the intervention and nature of the project activities, the project has been classified as a **Category B** project, whose potential impacts are few, small in scale and not extremely widespread, reversible or easily mitigated. A detailed impact assessment and mitigation plan will be developed for the full proposal. Activities 3.1.3 "Protection and reinforcement of cultural heritage against coastal erosion" and 4.1.1 "Implementation of a mechanism to help adapt housing to heat waves" are **USPs** and are therefore subject to an environmental and social risk analysis once the scope of the activities is determined and will be subject to a validation process with stakeholders. As part of the due

diligence process, the corresponding mitigation measures will be established, and the results will be socialized with the communities and corresponding authorities.

<b>Checklist of environmental and social principles</b>	<b>No further assessment required for compliance</b>	<b>Potential impacts and risks – further assessment and management required for compliance</b>
<i>Compliance with the Law</i>	Additional evaluation required	Project design takes into account compliance with applicable national and international legislation. Some of the project activities related to components 2, 3 and 4 will require permits or licenses.
<i>Access and Equity</i>	Additional evaluation required	A mechanism will be developed during the full proposal to ensure the participation of marginalized and vulnerable groups, stakeholders and local authorities.
<i>Marginalized and Vulnerable Groups</i>	Additional evaluation required	An initial identification of the main vulnerable groups in the Project's area of influence was carried out. Additional consultation and analysis will be carried out in the full proposal to ensure the inclusion of marginalized and vulnerable groups in the allocation and distribution of project benefits and in the consultation processes.
<i>Human Rights</i>	No additional evaluation required	All activities shall respect and comply with national legislation and international human rights conventions.
<i>Gender Equality and Women's Empowerment</i>	Additional evaluation required	The project has designed activities with a gender perspective. The project will have a Gender Assessment and Gender Action Plan, delving into additional considerations to reduce gender gaps and avoid aggravating current situations of inequality between men and women.
<i>Core Labour Rights</i>	Additional evaluation required	The project adheres to compliance with labor laws and standards. Employment relationships will be based on the principle of equal opportunity and fair treatment, and non-discrimination. Some project activities will require the support of contractors and/or subcontractors who must comply with labor laws and International Labor Organization (ILO) regulations.
<i>Indigenous Peoples</i>	No additional evaluation required	In the area of influence there are no indigenous communities territorialized or living in communities.
<i>Involuntary Resettlement</i>	No additional evaluation required	Project activities will not lead to voluntary or involuntary resettlement processes, nor will they adversely affect the livelihoods of the communities in the area of influence.
<i>Protection of Natural Habitats</i>	Additional evaluation required	Project activities are aimed at increasing ecosystem resilience and improving ecosystem connectivity. The activities to be promoted will respect specific regulations and will be evaluated by the competent authorities. A more detailed analysis will be carried out during the formulation of the full proposal to ensure the conservation and protection of natural habitats (marine and terrestrial).
<i>Conservation of Biological Diversity</i>	Additional evaluation required	The project includes a vulnerability analysis of the area of influence of the project and its main ecosystems. All species promoted as part of the reforestation and restoration processes will be native and local species adapted to the area. No genetically modified organisms will be used. Additional elements to ensure biodiversity conservation will be included in the full proposal.
<i>Climate Change</i>	No additional evaluation required	The project has an adaptation focus (increasing the resilience of ecosystems and people's livelihoods). Additionally, some activities have direct carbon sequestration benefits (e.g. reforestation activities, forestry, etc.). In this regard, project activities are not expected to significantly increase GHG generation; where civil works are required, it is recognized that vehicle movement may increase emissions, but this impact is not considered to be significant.
<i>Pollution Prevention and Resource Efficiency</i>	Additional evaluation required	Risk of designing and implementing the project in a manner that does not comply with applicable international standards to maximize energy efficiency and minimize the use of good sectoral practices for sustainable resource management activities and the disposal of waste and contaminants.
<i>Public Health</i>	No se requiere evaluación adicional	No public health risks are foreseen. On the contrary, component 4 activities aim to improve the quality of life and health by providing options to cope with heat waves. In addition, best practices related to the sectors in which the project operates will be taken into account to address and manage risks related to community health and safety. Project activities are expected to improve priority ecosystem services and diversify and strengthen community livelihoods (become more resilient).

<i>Physical and Cultural Heritage</i>	Additional evaluation required	The project's zone of influence encompasses the Hispaniola National Park protected area, which includes the Villa de La Isabela Archaeological Site and the underwater heritage. The ruins of La Isabela are currently in the process of being evaluated for UNESCO World Heritage Site status. The activities to be implemented will be limited and in consultation with the relevant local and national authorities (e.g. Ministry of Culture) and are aimed at protecting and reinforcing the cultural heritage. This activity is a USP, as the best investment has not yet been defined, which will be determined by the feasibility study to be carried out during implementation.
<i>Lands and Soil Conservation</i>	Additional evaluation required	Project activities are expected to increase ecosystem resilience by integrating good sectoral practices to reduce coastal degradation (e.g. restoration practices, warning and monitoring systems) and reduce slope erosion (e.g. agroforestry). However, further analysis will be required to ensure that none of the activities can cause harm and that appropriate mitigation measures are put in place.

## PART III: IMPLEMENTATION ARRANGEMENTS

### A. Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s) <sup>1</sup>	Project Objective/ Outcome Indicator(s)	Fund Outcome/Output	Fund Outcome/Output Indicator	Grant Amount (USD)
<b>Component 1: Strengthen planning and monitoring of coastal and marine areas</b>				
Strengthened planning and monitoring of coastal and marine areas	Climate change priorities are integrated into coastal-marine resource management in the project area.	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	1.500.000
Coastal-marine sector planning considering climate change	Number of sectoral plans developed with climate change considerations	Output 7: Improved integration of climate-resilience strategies into country development plans	7.2. No. of targeted development strategies with incorporated climate change priorities enforced	
<b>Component 2: Strengthen terrestrial and marine ecosystems in the face of climate change impacts</b>				
Strengthened terrestrial and marine ecosystems in the face of climate change impacts	Number of hectares restored and reforested under climate change conditions	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	3.000.000
Coastal-marine and terrestrial ecosystems strengthened to withstand climate change impacts	Number of physical and natural assets strengthened to withstand impacts resulting from climate change	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability.	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	
<b>Component 3: Strengthen and diversify the livelihoods of the local population</b>				
Strengthened and diversified livelihoods of the population to cope with climate change impacts	Number of people with strengthened and/or diversified livelihoods, disaggregated by gender	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	2.500.000
Community-based ecological and cultural tourism plan developed and implemented Improved sustainable fishing practices and diversified livelihoods	Number and type of adaptation strategies implemented to support the livelihoods of the local population	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	
<b>Component 4: Improve housing to contribute to the wellbeing and health of the local population in the face of heat waves</b>				

Improved housing to contribute to the well-being and health of the local population in the face of heat waves	Number of families with home improvements and type of improvement against heat wave impacts	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	642.000
Improved housing for the vulnerable population in the face of heat waves	Number of dwellings reinforced to be more resistant to heat waves	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	
<b>Component 5: Build capacities of key stakeholders and strengthen knowledge on climate change</b>				
Capacity building of governmental institutions, civil society and the local population; and reinforced knowledge on climate change.	Number of people with knowledge of climate change impacts and appropriate adaptation measures in the project area	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	700.000
Governmental, civil society and public stakeholders involved in climate action and with knowledge of climate change adaptation in coastal-marine areas.	Number of knowledge products developed by the project disseminated to relevant stakeholders	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	

<sup>1</sup> The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology, but the overall principle should still apply



## PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

**B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address.*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and Policies of Dominican Republic and subject to the approval by the Adaptation Fund Board, commit to implementing the project in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project.

### Name & Signature

DocuSigned by:



Mr. Ignacio Lorenzo

Director - Direccion de Asesoramiento Tecnico en Clima y Biodiversidad -

**Implementing Entity Coordinator**

**Date:** July 4, 2024

**Tel.** [+598 2917 3211](tel:+59829173211)

**Email:** [ilorenzo@caf.com](mailto:ilorenzo@caf.com)

### Project Contact Persons:

Carolina Cortés // Oscar Guevara

**Tel.** 809-792-5152 // +56 (9) 9970 8615

**Email:** [acortes@caf.com](mailto:acortes@caf.com) // [oquevara@caf.com](mailto:oquevara@caf.com)

**Certificado de finalización**

Identificador del sobre: 3825F0C06563419ABD990C6A73EABC07  
 Asunto: Complete with DocuSign: Annex - CAF Implementing Entity.pdf  
 Sobre de origen:  
 Páginas del documento: 1                      Firmas: 1  
 Páginas del certificado: 1                      Iniciales: 0  
 Firma guiada: Activado  
 Sello del identificador del sobre: Activado  
 Zona horaria: (UTC-04:00) Georgetown, La Paz, Manaus, San Juan

Estado: Completado  
 Autor del sobre:  
 OSCAR GUEVARA  
 Ave. Luis Roche - Torre CAF Altamira - Caracas  
 Altamira, Caracas .  
 OGUEVARA@CAF.COM  
 Dirección IP: 190.216.112.234

**Seguimiento de registro**

Estado: Original  
 03-jul.-2024 | 11:20

Titular: OSCAR GUEVARA  
 OGUEVARA@CAF.COM

Ubicación: DocuSign

**Eventos de firmante**

Ignacio Lorenzo  
 ILORENZO@caf.com  
 Nivel de seguridad: Correo electrónico,  
 Autenticación de cuenta (opcional)

**Firma**

Adopción de firma: Dibujada en dispositivo  
 Utilizando dirección IP: 125.35.60.150

**Fecha y hora**

Enviado: 03-jul.-2024 | 11:23  
 Visto: 03-jul.-2024 | 13:24  
 Firmado: 03-jul.-2024 | 13:24

**Divulgación de firma y Registro electrónicos:**  
 No se ofreció a través de DocuSign

**Eventos de firmante en persona****Firma****Fecha y hora****Eventos de entrega al editor****Estado****Fecha y hora****Eventos de entrega al agente****Estado****Fecha y hora****Eventos de entrega al intermediario****Estado****Fecha y hora****Eventos de entrega certificada****Estado****Fecha y hora****Eventos de copia de carbón****Estado****Fecha y hora****Eventos del testigo****Firma****Fecha y hora****Eventos de notario****Firma****Fecha y hora****Resumen de eventos del sobre****Estado****Marcas de tiempo**

Sobre enviado	Con hash/cifrado	03-jul.-2024   11:23
Certificado entregado	Seguridad comprobada	03-jul.-2024   13:24
Firma completada	Seguridad comprobada	03-jul.-2024   13:24
Completado	Seguridad comprobada	03-jul.-2024   13:24

**Eventos del pago****Estado****Marcas de tiempo**

**PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY****A. Record of endorsement on behalf of the government<sup>2</sup>**

*Provide the name and position of the government official and indicate date of endorsement. If this is a regional project, list the endorsing officials all the participating countries. The endorsement letter should be attached as an annex to the project proposal.*

*Please attach the endorsement letter with this template; add as many participating governments if a regional project:*

<p><b>Milagros De Camps</b> Deputy minister of Climate Change and Sustainability Ministry of Environment and Natural Resources</p>	<p>Date: July 4, 2024</p> <p style="text-align: right;"><i>Signature</i></p>
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VCCyS-0097-2024

03/07/2024

**To:** The Adaptation Fund Board  
c/o Adaptation Fund Board Secretariat  
Email: [Secretariat@Adaptation-Fund.org](mailto:Secretariat@Adaptation-Fund.org)  
Fax: 202 522 3240/5

**Subject:** Endorsement of the Concept Note "Enabling Dominican Republic's competitiveness through environmental sustainability and climate resilience from tourism (Blue and Green Tourism Project - TUUVE)".

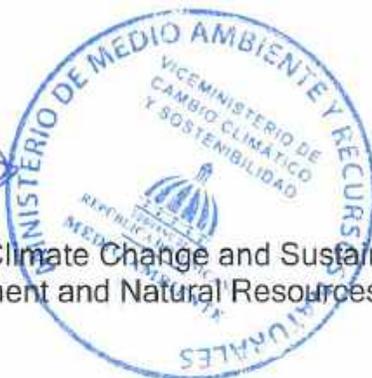
In my capacity as designated authority for the Adaptation Fund in Dominican Republic, I confirm that the above national concept note is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Dominican Republic.

Accordingly, I am pleased to endorse the above concept note with support from the Adaptation Fund. If approved, the project will continue to present the full proposal.

Sincerely,



**Milagros De Camps**  
Deputy Minister of Climate Change and Sustainability  
Ministry of Environment and Natural Resources



MDC/ICB/mgb