

GEF-8 WORLD BANK PCN STAGE/GEF DATA SHEET

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General Project Information

Project Title

Sao Tome e Principe – Development of the Transport and Coastal Protection Sector

Region

Sao Tome and Principe

GEF Project ID

11552

Country(ies)

Sao Tome and Principe

Type of Project

FSP

GEF Agency(ies):

World Bank

GEF Agency ID

P178353

Executing Partner

To be determined

Executing Partner Type

Others

GEF Focal Area (s)

Climate Change

Submission Date

3/20/2024

Project Sector (CCM Only)

Climate Change Adaptation Sector

Taxonomy

Focal Areas, Climate Change, United Nations Framework Convention on Climate Change, Nationally Determined Contribution, Climate Change Adaptation, Climate information, Disaster risk management, Least Developed Countries, Sea-level rise, Climate resilience, Mainstreaming adaptation, Ecosystem-based Adaptation, Private sector, Community-based adaptation, Climate Change Mitigation, Sustainable Urban Systems and Transport, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Stakeholders, Private Sector, Local Communities, Civil Society, Community Based Organization, Communications, Awareness Raising, Public Campaigns, Behavior change, Beneficiaries, Type of Engagement, Consultation, Information Dissemination, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Gender results areas, Access and control over natural resources, Capacity Development, Participation and leadership, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Learning, Theory of change, Knowledge Exchange, Knowledge Generation

Type of Trust Fund

LDCF

Project Duration (Months)

60

GEF Project Grant: (a)

12,844,037.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

1,155,963.00

Agency Fee(s) Non-Grant (d)

0.00

Total GEF Financing: (a+b+c+d)

14,000,000.00

Total Co-financing

30,000,000.00

| | |
|---|------------------------------------|
| PPG Amount: (e) | PPG Agency Fee(s): (f) |
| 0.00 | 0.00 |
| PPG total amount: (e+f) | Total GEF Resources: (a+b+c+d+e+f) |
| 0.00 | 14,000,000.00 |
| Project Tags | |
| CBIT: No NGI: No SGP: No Innovation: No | |

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

The Democratic Republic of São Tomé and Príncipe (STP) is a small, two-island, lower-middle-income country highly susceptible to external shocks. One of Africa’s smallest nations, STP is a Small Island Developing State (SIDS) comprised of two main volcanic islands and several islets located off the west coast of central Africa in the Gulf of Guinea. São Tomé, the largest island, covers an area of 859 km² with over 200,000 inhabitants. Príncipe Island, situated 150 km to the north, covers about 142 km² with over 8,000 inhabitants. The country is divided into six districts (Água Grande, Cantagalo, Caué, Lembá, Lobata, Mé-Zóchi) plus the Autonomous Region of Príncipe (RAP), which has been self-governed since 1995. Classified as lower-middle-income, the country is characterized by geographic insularity, a rugged landscape and a fragile economy highly vulnerable to exogenous shocks. Islanders currently face challenges from changing climate conditions, the socio-economic impact of COVID-19, and escalating fuel and food costs. Despite its size and remote location, it has significant untapped natural wealth, including pristine rainforests with a rich and unique biodiversity.

The country faces development challenges typical of small island nations. In 2020 the country’s per capita gross national income was estimated at US\$4,260 in purchasing power parity (PPP), and its per capita gross domestic product (GDP) at market exchange rates was US\$2,158. The country faces significant socio-economic vulnerability due to elevated poverty as more than a third of the population live below the global poverty line of US\$1.90 (2011 PPP) per person per day. Low government capacity and high fixed costs of public goods limit effective investments in human development, resulting in a small and undiversified production base. STP is heavily dependent on grants and concessional loans for fiscal and external financing. STP’s economy is based on services and the primary sector, with an almost non-existent industrial sector. The main economic activities are tourism, retail, transport, communication, and construction. STP faces the usual hardships associated with small island states with limited natural resources. Domestic production is small, with almost all consumer goods being imported. The main agricultural product is cocoa, whose production is largely exported, although exports volumes have declined in the last couple of years due to weather-related problems. Capital goods and fuels are also imported. Inadequate infrastructure and heavy reliance on food imports lead to price fluctuations, which disproportionately impact the most vulnerable households. Tourism is a relevant economic activity – generating more foreign currency inflow than cocoa – but still far from its potential in terms of exports, GDP contribution and job creation.

At the height of the pandemic, TP’s economy was hit by a near total halt in tourism, one of the main growth drivers of the economy prior to the pandemic, as well as mobility restrictions to contain the spread of the virus. According to government statistics, these pandemic-related shocks were, however, more than offset by increased government spending and investment, financed by exceptionally large donor

financing. Accordingly, STP's GDP grew by 3.1 percent in 2020 compared to 2.2 percent in 2019. Poverty is projected to have declined slightly in 2021, from 35.4 to 35.2 percent (at the international poverty line of US\$1.9 per day 2011 PPP). The tourism sector is further stressed during extreme climate events (ex. tropical storms, heavy rainfall and runoff, flooding, storm surge); when roads are rendered unusable, the transportation of goods and services from key tourism sectors (ex. food and beverage) is considerably limited, leading to the inability of the tourism sector to sustain itself during major climate events. Without sufficient rehabilitation of the road that would allow for its reinforced resilience to these climate pressures, the tourism sector will become more vulnerable to climate change.

The country's physical and socio-economic characteristics make STP highly vulnerable to climate change. STP is vulnerable to natural hazards, such as coastal and riparian flash floods, severe storms, landslides, and droughts. Several of the country's coastal communities witness flooding up to 10 times a year and yearly landslides, causing significant damage to homes and livelihood assets. The country is already affected by the impacts of climate change; sea level rise, changes in wave action, and river flood patterns exacerbate an already eroding coastline and shoreline. These threats are particularly important, given that most of the country's population and infrastructure are situated along the coast and near rivers. The impacts of climate change can also be observed through temperature rise and an extended dry season. Climate impacts are anticipated to heavily affect agriculture and fisheries, crucially impacting livelihoods, despite the relatively small sectoral contribution to overall GDP. Climate variability and change exacerbate existing challenges in coastal areas, including overexploitation of fisheries and coastal aggregates, coastal pollution, rapid urbanization and unsustainable land use. Increasing climate resilience is a priority for the national authorities, and the country has outlined several adaptation strategies in the Updated NDC (2021). While STP is a large carbon sink relative to its size, the government has included a mitigation contribution in its NDC to support global efforts to address climate change. However, the implementation of these measures requires financial resources and strengthened institutional capacity.

The country's transport infrastructure is under significant risk from climate change; however, it can also play an essential role in building the country's climate resilience. Most of the national infrastructure—including the port, airport, the oil reservoirs, hotels—is located along the shoreline and directly exposed to sea level rise and flooding. Moreover, the coastline is already fragile due to unsustainable sand extraction practices. Developments in the coastal areas, often based on the plans elaborated during the colonial period, have not integrated those threats. For instance, the road connecting the airport to the city center was washed away by the sea around thirty years ago. The current road section was rebuilt 30 meters further inland, but in a place which will also be exposed to climate change impacts in the future. More recently, a storm hit STP in December 2021, leaving two people dead and at least six missing and causing major damage to infrastructure and disruption to economic activities. The World Bank is providing emergency support to rebuild three bridges that were destroyed by the storm. Estimates suggest that in 2020, Average Annual Losses from exposed assets to flooding were around 3% of the GDP. However, this value could increase to 4% for 2050 and 6% for 2080 if adaptation actions are not taken. Fostering climate resilient infrastructure can help reduce these losses and improve the reliability of service provision. Climate resilient transport infrastructure can also improve access to key services and markets and work as a catalyzer of development, which can help reduce vulnerability to climate change.

The national road network is critical for economic development and access to essential services but suffers from chronic poor maintenance. STP has a total of 1,317 km of roads out of which 331 km are paved. The national road network is used for all local transport on the main island. Given that the lion's share of the economic activity and population lies along the coast, a large part of the national road network (National Roads 1 and 2) is situated on the shoreline. National Road 1 provides transport access to around 60% of Sao Tome's population. It connects Sao Tome (70,000 inhabitants) to Guadalupe (20,000), Neves (15,000) and Santa Catarina along a distance of 44 km. The segment from Sao Tome to Guadalupe, 14 km in

length, is currently being rehabilitated with World Bank support. The 14 km segment between Guadalupe and Neves and the 19 km between Neves and the end of EN1 in Ponta Furada (a few kilometers past Santa Catarina) serves as the sole connection to the Neves fuel depot. This segment is a 5-6 meters wide road with a dangerous horizontal and vertical alignment, with a long portion of coastal road bordering non-stabilized high slope on one side and the sea on the other side, which is only partially protected by sea walls. The road has been significantly degraded from the impacts of climate change and needs rehabilitation and protection. The average traffic is around 1,500 vehicles/day with a high presence of motorcycles in urban/town areas. The road is also used by trucks to transport fuel (for electricity generation) and beer from Neves to the rest of the country, including to the island of Príncipe. It also provides access to coffee, cocoa, and other small-scale agricultural units.

Protection of road infrastructure against coastal hazards is a challenge. National Roads 1 and 2, and the urban road along the waterfront of Sao Tome city are exposed to coastal hazards, particularly climate-driven erosion and flooding. The impacts of stronger and increasingly unpredictable spring tides are further exacerbated by extensive sand mining, leading to high rates of coastline erosion (about 0.2-1.2 meters a year). The current coastal protection structures (grey infrastructure in the form of sea walls) are degrading and no longer adequately protect some of the main roads from both the impacts caused by submersion, and by the erosion, affecting the pavement and the structure of the road. There are a few localized temporary interventions, but not at the scale which could protect the road infrastructure in the long term. These gaps call for the exploration of other solutions, such as green-technology and nature-based solutions (NBS).

The responsibility for all transport related activities in São Tomé and Príncipe (STP) fall within the Ministry of Infrastructure and Natural Resources (MIRN). The National Institute of Roads (INAE- Instituto Nacional das Estradas) manages the road network, and transport services are regulated by the Directorate for Transport and Communication (DTC). The National Road Fund (Fundo Rodoviário Nacional, FRN), an autonomous government fund oversees financing of road maintenance activities. INAE is responsible for road maintenance, implements the road development strategy, plans road projects, and compiles and manages a road database.

STP uses a community-based approach to maintain its road network. This approach is mainstreamed as a road management practice through community associations (Grupos de Interesse para Manutenção de Estradas, GIME) which are organized under the national federation (FNAME - Federação Nacional para Manutenção de Estradas). The associations were established with the support of the European Development Fund in 2005. There are 32 GIMEs covering all the country and each GIME has on average 50 members from local communities. GIMEs carry out routine maintenance of both paved and unpaved roads. They also undertake a more elaborate road maintenance intervention such as filling potholes and some coastal protection and slope stabilization works (i.e. gabions). GIMEs used to cover the whole country's road network routine maintenance work (1,300km) at an average unit cost of \$1,000/km/year. However, GIMEs currently cover only 860 km due to budget constraints.

The Sao Tome e Principe Road Fund (Fundo Rodoviário Nacional, FRN), established in 2005, is supposed to cover all routine maintenance needs, estimated at US\$1.3 million/year, but it has currently difficulties in mobilizing revenues (fuel levy, vehicle license fee, vehicle import fees, traffic fines, and a levy on vehicle insurance). Currently only the proceeds from the fuel levy (US\$0.25 m) are mobilized and channeled directly to the FRN. The institutional set up between FRN and the GIMEs needs to be consolidated along with their financing mechanism and improved road management practices. The total financing gap for

road maintenance needs and the level of road user charges (fuel levy, vehicle license fee and levy on vehicle insurance) that are required to fill the financing gap are unclear. Further support is required to develop a road asset management system with a climate-resilience focus and to improve the technical and management capacity of INAE, FRN and GIMEs.

Road Safety remains a major issue at STP. The number of traffic fatalities was estimated at 55 per year, or a rate of 27.9 persons per 100,000 of population in 2019. This is higher than the African average of 26.6 and is ten times the rates experienced in best performing countries in the world. The number of motorcycles has also increased significantly in STP, and this presents an additional challenge to road safety. Road traffic fatalities can cost the equivalent of up to 9% of the GDP every year, disproportionately affecting the poorest households. Fatalities are also greatly underreported, with an estimated 1 out of 2 fatalities not being recorded in official statistics. Road traffic fatalities can be mitigated by protecting and rehabilitating the road to avoid accidents.

Transport contributes to gender gaps in secondary education. In terms of education, girls', and boys' access to primary education in STP is nearly universal. However, there is a substantial difference in girls' probability to complete secondary school compared to primary school. The probability for girls to complete secondary school is 64.1 percent against 99.4 percent probability to complete primary school. Several barriers can explain this fact such as an insufficient number of 10th to 12th grade high school facilities coupled with long distance to reach them, and concerns about gender-based violence (GBV) on the way to and return from schools. There are even concerns about GBV taking place in the school environment.

Gender gaps persist in female labor force participation in the transport sector in STP. Labor force participation, occupational segregation is evident in the country, with women concentrated in less skilled and lower remunerated jobs that are aligned with traditional ideas of women's role in the society. For instance, women hold only 5% of jobs in transport, storage, and communication in the country as of 2021 data.

Investments in the national road network are needed to increase their resilience to climate change and support economic development. Isolation and low connectivity pose constraints to poverty reduction and economic growth in STP. Low connectivity impacts the efficiency of service delivery, limits economic activities and opportunities, reduces private sector development, and leads to increased cost of services, goods, and trade. The lack of infrastructure that is resilient to shocks and stresses is associated with high infrastructure recovery costs, overburdened assets and loss of competitiveness. The national road network in Sao Tome is already experiencing impacts from erosion and flooding, which are compounded by the roads' poor maintenance. Climate change and variability are predicted to further aggravate existing challenges to the transport infrastructure. These challenges can, however, be reduced through investments to upgrade the road network including resilience considerations coupled with institutional strengthening. In particular, there is a need to support the Road Fund, consolidate its institutional set up, and improve road asset maintenance practices. A stronger road fund will also sustain the GIMEs, STP community-organizations that engage in road maintenance (50 percent female membership).

Climate-resilient roads can increase the adaptive capacity of coastal communities and reduce potential losses of assets and lives. Strengthening the resilience of the national road networks can improve the

reliability of service provision, avoid the need for costly retrofitting and increase asset life. Resilient road infrastructure can also reduce disruption caused by natural hazards and extreme weather events and avoid delays in the evacuation and recovery process. Road infrastructure has also an important role in increasing adaptive capacity by supporting other systems and sectors that provide livelihood alternatives to coastal communities. In addition, climate-resilient infrastructure can deliver important environmental and climate co-benefits when including nature-based solutions (NBS).

STP is already being impacted by climate variability and change. The climate of STP is typically equatorial, with high temperatures and humidity throughout the year. Coastal areas in Sao Tome experience a mild mean temperature of around 28-29°C. The precipitation on the island has a strong spatial variability due to the land relief, with many micro-climates observed, including within the intervention area. The southern part of the island experiences a higher average annual rainfall well above 2,000 mm, whereas in the northern part, the precipitation is lower, less than 1,500 mm. Temperature observations indicate that Sao Tome has experienced an increase of annual mean temperatures of about 0.8°C in the 1981-2020 period, while extreme temperatures (maximum daily temperature occurring within a year) have also increased, with a more marked signal in the western tip reaching an average rate of up to +0.3°C /decade (Figure 1). The trends observed during the last decades indicate a consistent increase in extreme precipitation throughout the whole island (Figure 2). Climate variations are expressed as droughts and strong precipitation events, causing floods, landslides, and disrupting the transport of fuel, food, and goods on the island.

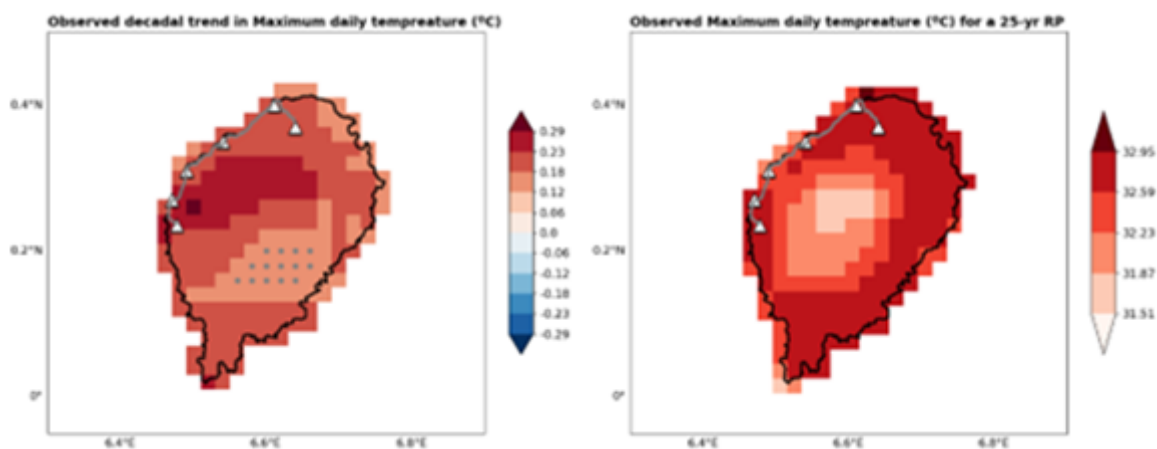


Figure 1. Spatial distribution of extreme temperatures observed during recent decades. Observed trends between 1981 and 2020 of annual maximum temperatures (left). Annual maximum temperatures for a 25-year return period in the baseline period (right). The road between Guadalupe-Neves-Ponta Furada is shown with a grey line. Source: GCA.

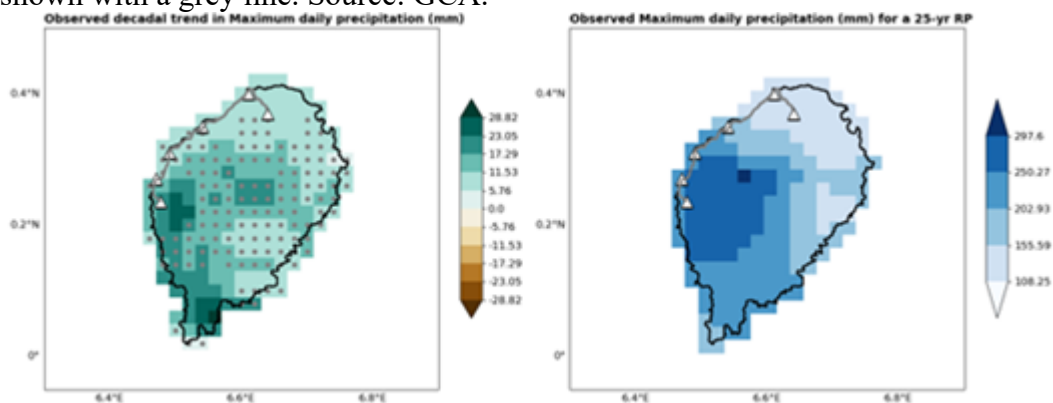


Figure 2. Spatial distribution of extreme precipitation observed during recent decades. Annual maximum daily precipitation for a 25-year return period in the baseline period (left). Observed trends between 1981 and 2020 of annual maximum precipitation (right) non-significant trends are indicated with a grey dot. Observed trends are expressed in mm per decade The road between Guadalupe-Neves-Ponta Furada is shown with a grey line. Source: GCA.

Projections indicate significant climate change impacts in STP. Extreme temperatures with a return period of 25 years are expected to increase in Sao Tome around 1.5°C by 2050 under RCP4.5 and near 2°C for the business-as-usual scenario (RCP8.5). The difference between scenarios increases for the second half of the century stabilizing at a 2°C increase under RCP4.5 and almost exceeding 4°C under RCP8.5. In addition, the number of warm days exceeding 35°C is likely to reach, during the second half of the century, years with up to 20 days under RCP4.5, and an average of more than 3 months in a year under RCP8.5. Further intensification of extreme precipitation in Sao Tome is likely under RCP4.5 and RCP8.5 (Figure 3). Both future scenarios reveal a significant increase of above 10% until 2050. Moreover, projections show an even higher and consistent pattern of intensification along the western coast that is part of the intervention area. Beyond 2050, a pronounced increase in precipitation is observed only under RCP8.5 leading up to 30% more intense rainfall events. Extreme precipitation events can result in river flooding which cause human losses and material damage. In addition, intense rainfall events and extended wet periods have been observed as triggers for landslides on the island. These risks are compounded by changes in land use, deforestation, and urbanization.

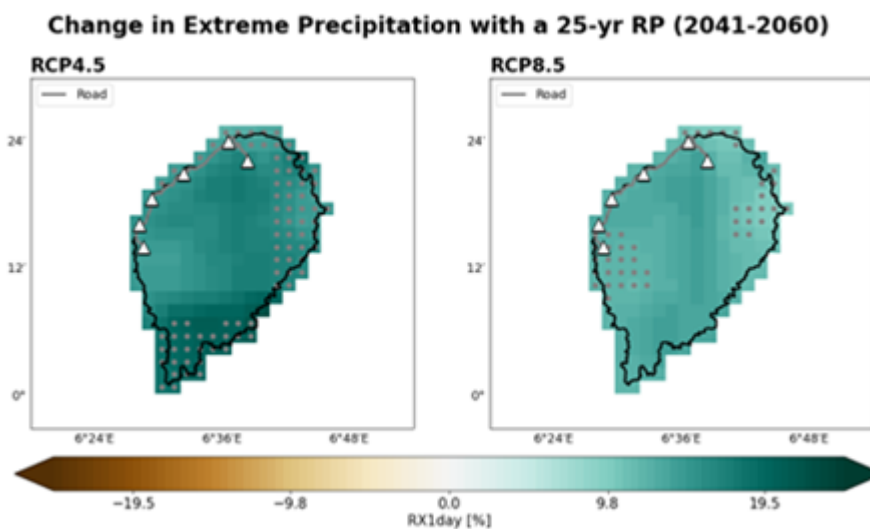


Figure 3. Change of projected change in maximum daily precipitation for a 25-year return period (in mm). Source: GCA

The location of the island’s most important transport infrastructure near the coast leads STP to face significant climate risks through coastal flooding, sea-level rise and storm surge. STP has been experiencing continuous sea level rise since 1993. Storm surges vary between 0.8-0.98 m for events with return periods between 2 and 100 years, respectively. These events contribute to the risk of coastal erosion on the island. This situation increases the impacts of floods each year from the sea, which are compounded due to extreme precipitations. Each year, floods impact an average of 700 individuals in the country, constituting approximately 0.36% of the total population. The local economy faces significant vulnerability to floods, with the affected areas contributing around 1.42% to the national GDP annually, equivalent to approximately \$5 million.

Climate hazards such as droughts, landslides, river flooding and coastal erosion likely to intensify in Sao Tome. The screening of the exposure to climate hazards including drought, extreme wind, wildfires, landslides, river flooding and coastal erosion in Sao Tome reveals that their occurrence will be intensified in the future although with different degrees of severity and uncertainty (Figure 4). The road between

Guadalupe-Neves-Ponta Furada is exposed to several of these hazards due to its location (inland vs coastal), elevation, and proximity to water bodies and cliffs (Table 1). Further, a climate analysis revealed that flood water depths with return periods of 2 and 5 years are expected to increase in the 5 km radius of Neves by 2080 (RCP 8.5 scenario), which leaves the EN1 connecting Guadalupe to Neves highly exposed to the direct (flooded roads and dangerous driving conditions) and indirect impacts (erosion of the rock formations along the road, leading to landslides that impede road traffic) of flooding events. The Maria Luiza River Basin is expected to experience increased water depths during flooding events with 2 and 5 return years of ~0.3 m to ~0.9m, and water depths reaching 3 meters for floods with 50-year return periods by 2080.

Matrix of high-level hazard scenarios in Saõ Tomé (2080-2100)

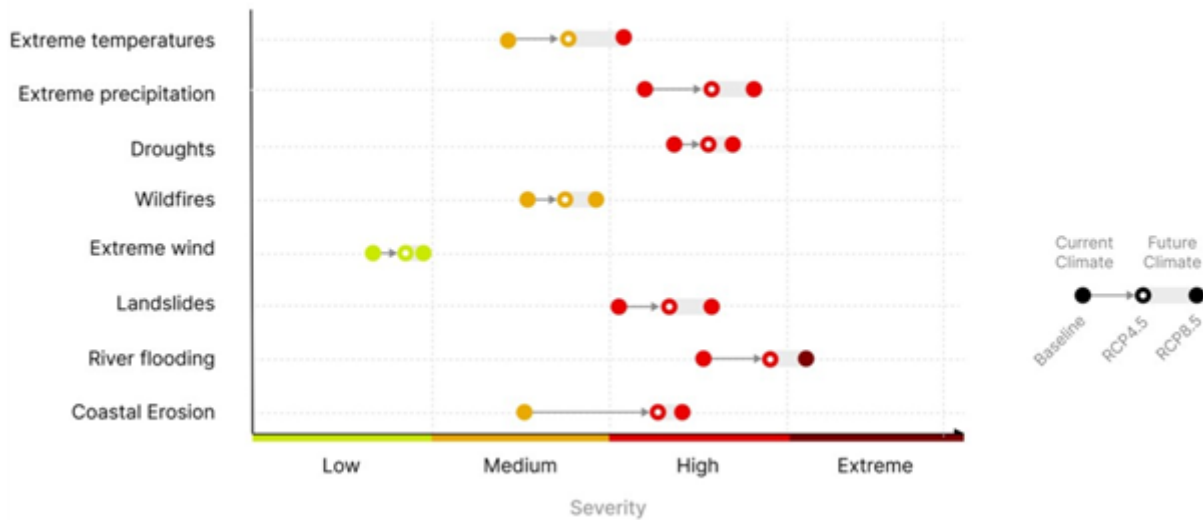


Figure 4. Qualitative matrix of current and future risks of the different climate hazards in Sao Tome (2080-2100). The mapping is based on a combination of potential impacts and historical events in the context of the region’s climate. Source: GCA

Table 1. Key hazards in the road between Guadalupe-Neves-Ponta Furada

| Section | Key hazards |
|---|---|
| Section 1: Guadalupe to Lagoa Azul | The north of the road registers the highest extreme temperatures, which are expected to increase in the future. Related to extreme temperatures, this section has the largest wildfire risk (high), according to the Fire Weather Index. |
| Section 2: Lagoa Azul to Neves | This part of the road is in the Northwestern part of the Sao Tome Island. The main hazard is river flooding and extreme precipitation, especially at the crossing of the road with the Ribeira Funda river. Past extreme rainfall events have caused large flooding in the Ribeira Funda settlements. Coastal erosion has medium risk as the road stands above sea level. |

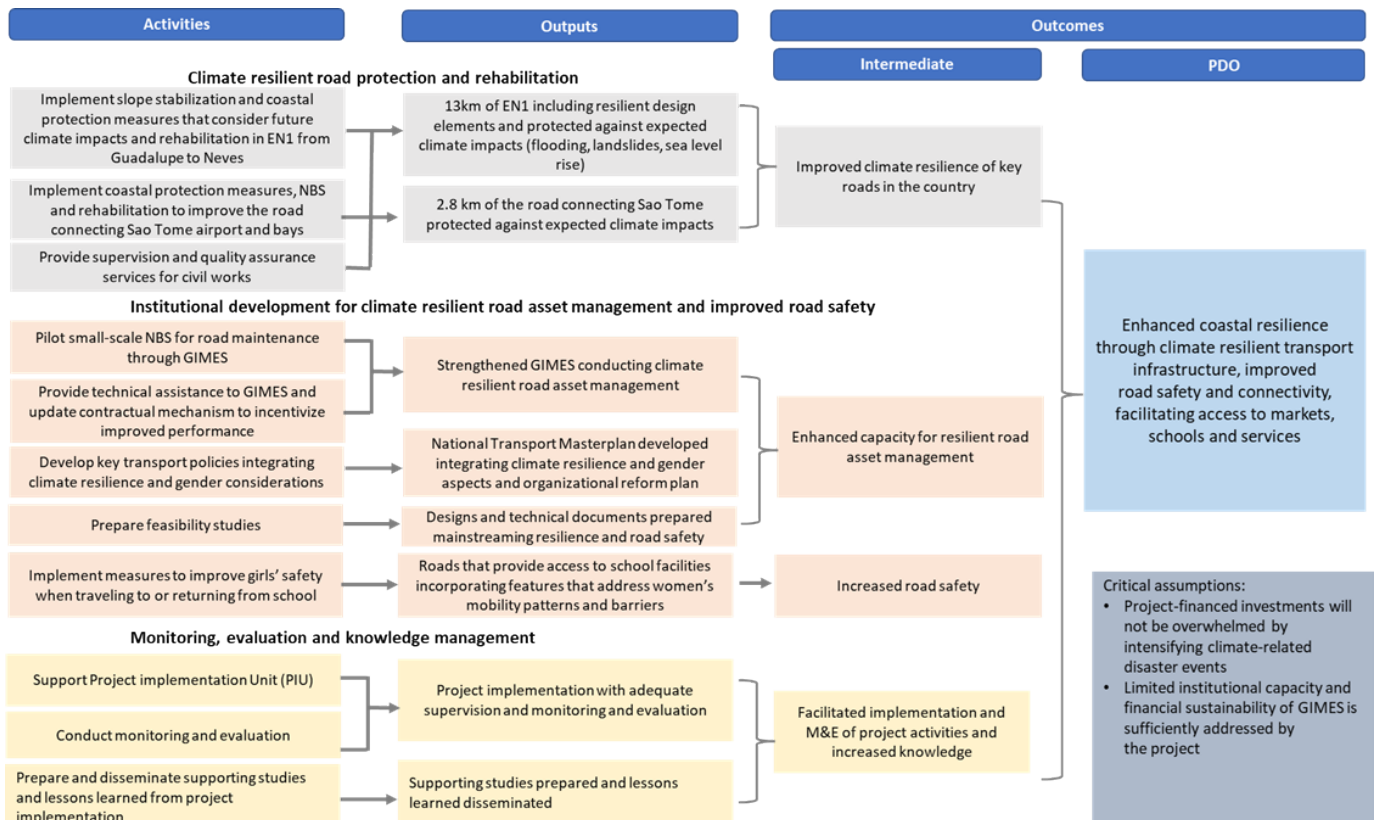
Table 2. Key hazards in the road connecting Sao Tome airport and bays.

| Section | Key hazards |
|---------------------------------------|---|
| Section 1: Lagarto Bay Section | The coastal road along the bay connects the country’s airport and the capital, with deteriorated road condition and coastal protection structures. The road is currently situated at a low level (estimated between +1.5m and 2m above mean sea level) without walkways, vulnerable to sea level rise, coastal erosion, and flooding. |

The proposed Second Transport Development and Coastal Protection Project aims to enhance the climate resilience of transport infrastructure and improve road safety and connectivity, facilitating access to markets, schools and services and thus enhancing coastal resilience in STP. To achieve these objectives the project is structured in three closely linked components 1) Climate resilient road protection and rehabilitation, targeting National Road EN1 from Guadalupe to Neves and the Lagarto Bay road from the airport of Sao Tome; 2) Institutional development for climate resilient road asset management and road safety; and 3) Supervision, monitoring and evaluation. In addition, a Contingency Emergency Response is included in the project. This component currently does not have funds allocated as it will only be activated in case of an emergency. Figure 1 summarizes the envisioned Theory of Change of the project.

The proposed project will consist of four components totaling **US\$ 47.5 million**:

| Component | Project Cost US\$ | IDA (US\$ M) | LDCF (US\$ M) | Finance Gap (US\$ M) |
|---|-------------------|--------------|---------------|----------------------|
| Component 1: Climate Resilient Road Protection and Rehabilitation | 41.5 | 25.8 | 11.1 | 4.6 |
| Sub-component 1.1: Climate resilient road protection and rehabilitation of National Road N1 from Guadalupe to Neves I | 27.5 | 15.5 | 7.4 | 4.6 |
| Sub-component 1.2: Climate resilient road protection, including NBS, to improve Lagarto Bay road. | 11 | 7.5 | 3.5 | 0 |
| Sub-component 1.3: Supervision and quality assurance services for civil works. | 3 | 2.8 | 0.2 | 0 |
| Component 2: Institutional development for climate resilient road asset management and improved road safety | 3 | 2 | 0.9 | 0.1 |
| Sub-component 2.1: Strengthening GIMES for climate resilient road asset management. | 1 | 0.5 | 0.5 | 0 |
| Sub-component 2.2: Institutional strengthening for climate resilient transport policies | 0.4 | 0.1 | 0.2 | 0.1 |
| Sub-Component 2.3: Preparation of feasibility studies | 0.6 | 0.4 | 0.2 | 0 |
| Sub-Component 2.4: Safe roads to schools | 1 | 1 | 0 | 0 |
| Component 3: Project Management, Monitoring evaluation and knowledge management | 3 | 2.2 | 0.8 | 0 |
| Sub-Component 3.1: Monitoring evaluation and knowledge management | 1 | 0.8 | 0.2 | 0 |
| Sub-Component 3.2: Project Management | 2 | 1.4 | 0.6 | 0 |
| Component 4: Contingent Emergency Response Component - CERC | 0 | 0 | 0 | 0 |
| Total | 47.5 | 30 | 12.8 | 4.7 |



Component 1: Climate Resilient Road Protection and Rehabilitation: (Cost estimate: US\$ 41.5 million – US\$ 24 million from IDA and US\$ 11.1 from LDCF).

Sub-component 1.1: Climate resilient road protection and rehabilitation of National Road EN1 from Guadalupe to Neves. EN1 serves as one of the most important economic, strategic, and social lifelines for the country without any alternative routes, which results in severe economic and social disruptions if the road becomes impassable due to climate hazards. The road borders a non-stabilized high slope on one side and sea on the other side. The adjacent steep and exposed slope renders the road highly vulnerable to flooding and erosion, which contributes to accidents. Part of the reason for the steep slopes is the adjacent rock formation to the road was excavated to establish the existing road, leaving the road exposed to the impacts of flooding and landslide. The section targeted by the project is one of the top climate vulnerable and critical links affected by erosion, flood, and landslides, as identified through a multi-criteria climate assessment on roads in São Tomé conducted under the ongoing World Bank financed project. To address these challenges, this sub-component will implement flood protection measures through coastline restoration and NBS for slope stabilization, as well as climate resilient road rehabilitation. Examples of activities that will be prioritized under this sub-component include: nature-based solutions (NBS) solutions that not only stabilize slopes and limit the impact of storm surge, but also provide climate resilience benefits (i.e. assessing the ability of plant species to tolerate flooding and drought events), to ensure their long-term adaptive capacity to protect the road. Other activities to improve the climate resilience of the road include the improvement of drainage systems to reduce the accumulation of water on roads during floods and precipitation events; improving drainage will allow for the continuous use of public roads used to access schools, which is a particularly important issue for women and girl's to safely access educational institutions through access to well-lit, public roads. In addition, the project will ensure that the sourcing of materials to rehabilitate the road does not excavate materials in an area that would otherwise be left more exposed to the same climate pressures. All rehabilitation and protection will benefit from supervisory services from a contractor agency specialized in sustainable road asset management to ensure that the results of the work are climate resilient.

Output 1.1. The project will result in the protection of 1 km of EN1 through the resilient road rehabilitation and protection designs that will protect the road from expected climate impacts, such as: flooding, landslides, storm surge and sea-level rise. Both green (NBS) and mixed green-grey solutions will be employed to ensure that the road is sufficiently protected against climate change impacts by reinforcing the adaptive capacity of the rock slope and coastline that surround the road. This will also deliver environmental co-benefits, such as revegetation, carbon sequestration, and biodiversity through a rehabilitated natural ecosystem.

Sub-Component 1.2. Rehabilitation and coastal protection of the Lagarto Bay road from the airport of Sao Tome. The coastal road along the bay connects the country's airport and the capital, with deteriorated road condition and coastal protection structures. The Lagarto Bay road has considerable daily traffic (4,500-10,500 vehicles) and hosts a popular touristic beach for inhabitants and visitors in Sao Tome. Despite the importance of the road between and adjacent to important economic infrastructure, the road suffers from considerable climate adaptation challenges. The road is currently situated at a low level (estimated between +1.5m and 2m above mean sea level) without walkways, vulnerable to sea level rise, coastal erosion, and flooding. The road is also susceptible to stormwater runoff, and the few protection measures that exist (ex. Sea walls) have either collapsed or are not sufficiently effective to limit coastal flooding. Sea level rise has been consistently increasing since 1993, and will lead to the erosion of the beach, which will not only strip the road of a natural barrier from storm surge but will also impede Sao Tome's economic development through the erosion of the beach and surrounding tourism infrastructure. One of the activities that will be prioritized in this sub-component is beach nourishment, which has been explored as a viable solution to limiting the impact of strong storm surge and coastal erosion. Any beach nourishment that would be undertaken in this sub-component would be done in a way that would not otherwise render an area in which the sediment is sourced more vulnerable to the same impacts, to not displace the adaptation potential of other areas of Sao Tome. A feasibility study on beach nourishment identified in-land quarries near the city of Sao Tome and the Lagarto area as potential sources of sand for beach nourishment. Green nourishment (combining sediment deposition and replanting of seagrass beds) could also be explored as a viable NBS to mitigate the impact of coastal erosion. NBS such as green nourishment can also be combined with grey infrastructure and peri-natural solutions, such as rock revetment, to serve as an effective solution to dissipating wave energy during storm surge events. Likewise, coastal protection works will benefit from supervisory and monitoring services from a specialized contractor in sustainable road asset management and coastal protection. Indeed, the firm will conduct regular reviews and assessments of the areas, establishing a baseline of current conditions and minimum targets for road rehabilitation and protection. The firm will ensure that all activities actively contribute to climate adaptation objectives and allow for the long-term resilient development of road infrastructure in Sao Tome.

Output 1.2. The project will result in the protection of 2.8 km of road connecting Sao Tome and the Airport (Lagarto Bay Road). Various solutions to limit the impact of projected climate change, such as flooding and storm surge, will be implemented to provide sufficient protection to the road, which will allow for the long-term climate resilience of the road infrastructure. Certain solutions that will be explored in this activity, such as beach nourishment will result in environmental co-benefits, such as increasing reproductive grounds for threatened species (ex. sea turtles).

Sub-component 1.3: Supervision and quality assurance services for civil works. This sub-component will be delivered by a third-party entity that presents the necessary qualifications and experience to supervise the implementation of activities under sub-components 1.1 and 1.2. Activities include feasibility assessments and the elaboration of project plans for activities, as well as monitoring and ex-post evaluation of project works so as to ensure that all transport infrastructure resilience projects are satisfactorily implemented.

These sub-components will contribute to both **Outputs 1.1** and **Output 1.2**. Collectively, all activities will contribute to Intermediate **Outcome 1: Improved climate resilience of key roads in Sao Tome. Component 1** will partially (along with **Component 2**) contribute to the following project development objective (PDO): **Enhanced coastal resilience through climate resilient transport infrastructure, improved road safety, improved connectivity, facilitating access to markets, schools and services.**

Component 2: Reinforced, Safe, Climate Resilient Road Institutional Management (Estimated Cost: **US\$2.9 million – US\$ 2 million from IDA and US\$ 0.9 from LDCF**):

Sub-Component 2.1. The project will conduct analyses to understand current capacity and financial constraints faced by GIMEs and finance a new generation of GIMEs in for works in EN1 for the implementation of climate resilient and green road protection. The project will address the current challenges that GIMEs face in undertaking road restoration and protection works, adopting a particular focus on the gender disparities that contribute to a lacking participation of women in GIMEs. Based on stakeholder consultations and close collaboration with current GIMEs, the study will develop training protocols and pilot projects on implementing NBS in the protection of climate vulnerable areas in EN1. This will ensure that subsequent project activities beyond this project account for gender inequality in the design of training and supporting the next generation of GIMEs at the institutional level. Further, a new contractual mechanism to incentivize improved performance, targeting road safety and climate resilience outcomes will also be part of this pilot. Technical assistance will also be developed to mobilize earmarked resources for GIMEs within the FRN. The next generation of GIMEs will be equipped with the skills to implement nature-base solutions and climate-resilient road infrastructure works, allowing for a transformational shift in how local communities are engaged in public works, but also in terms of how climate adaptation will be viewed as a key aspect of road safety development, protection, and maintenance. Ultimately, this sub-component will result in strengthened GIMES that will not only adopt climate-sensitive road maintenance works but will also institutionalize and normalize climate adaptation and gender considerations at the institutional level.

Output 2.1. The project will result in the strengthening of GIMEs for the undertaking of climate resilient road asset management. **Sub-Components 2.1** and **2.2** will result in a strengthened institutional framework for GIMEs that will account for their needs and challenges in scaling up climate-resilient road asset management. The result of these sub-components will also build long-term institutional knowledge on the importance of climate adaptation in the transport infrastructure sector.

Sub-Component 2.2 Mainstreaming Climate Adaptation and Gender Considerations in National Transport policies. The project will work to ensure that transport policies in STP integrate climate adaptation and gender considerations are embedded in key planning documents and masterplans. The project will first conduct a rigorous analysis of current gaps and bottlenecks in integrating these themes into transport policies and will conduct feasibility studies to explore various options for integrating road safety and climate/gender these considerations into transport policies. These studies will serve as the basis of the National Transport Masterplan, which will integrate these considerations, along with an accompanying organizational reform plan. The project will finance a national transport masterplan, and a business plan and organizational reform plan for INAE to be able to implement its part of the masterplan. Technical assistance will also be financed by

proposing improved regulations that unlock dedicated sources of financing for road maintenance. These regulatory improvements can then be included in an upcoming Development Policy Operation (DPO) that will focus on infrastructure. The masterplan will mainstream key climate considerations, such as the projected impact of flooding on roads and the need for adequate drainage and coastal protection measures to mitigate the impact of climate change. The business plan will also explore ways in which the government can include the private sector in climate-resilient road asset management, selecting firms based on their technical experience capacity to implement climate adaptation-sensitive works in project interventions.

Output 2.2 The project will result in the development of the National Transport Masterplan, which will integrate climate resilience and gender aspects and organizational reform plan. The strengthening of policies through inter-ministerial and cross-sectoral engagement will result in a national transport masterplan that integrates various socio-economic and climate considerations that are key to sustainable and inclusive development.

Output 2.3 Designs and technical documents prepared mainstreaming resilience and road safety. Several studies are prepared to help inform the mainstreaming of climate adaptation and gender considerations in road safety regulations and policies.

Outcome 2.1 Enhanced Capacity for Resilient Road Asset Management. Sub-Components 2.1 and 2.2 will lead to the institutional strengthening of road management, not only through additional financing, but through long-term structural change that will integrate climate adaptation and gender considerations in national transport policies, as well as in local road rehabilitation and protective works, which will provide both climate and gender-related co-benefits.

Sub-Component 2.3. Road safety for girls accessing schools is strengthened through the improvement of road safety infrastructure. The project will prioritize roads that provide access to schools that are particularly degraded or render their pedestrian use otherwise unsafe. The project will prioritize roads that provide access to school facilities and incorporate features that address women's mobility patterns and barriers, including but not limited to sidewalks and pedestrian pathways, and infrastructure design features such as lighting to foster travel frequency of female users and increase access to schools. Infrastructure, such as lighting and high visibility road signs, that are vulnerable to climate change impacts (flooding, erosion) will be repaired and reinforced to be more resilient to climate change. In addition, deploying GBV communication campaigns and security measures to improve girls' safety when traveling to or return from schools near the project. The activities will be informed by an analysis being conducted on the ground by Amend, an international NGO with extensive experience in Africa on the subject.

Output 2.3 The project will improve the state of roads that provide access to school facilities by incorporating features that address girls' mobility patterns and barriers. Feasibility studies and local works on road areas that are in proximity to school buildings near EN1 will render the road crossing areas (particularly those that are vulnerable to damage from climate change impacts) safer for girls, allowing for the integration of various socio-economic and climate considerations that are key to sustainable and inclusive development.

Outcome 2.2. Increased Road Safety for girls. Sub-Component 2.5 will ultimately lead to safer travelling conditions for girls seeking access to schools and education opportunities by rendering the surrounding area more climate resilient through protection and rehabilitation works.

Component 3: Project Management, Monitoring, evaluation and knowledge management (Cost estimate: **US\$4.8 million – US\$ 4 million from IDA and US\$ 0.8 from LDCF**).

This component aims to contribute to the implementation of project activities, support knowledge management and **monitoring** and evaluation (M&E). It will finance operating costs of the project implementation unit, M&E of project activities, including impact evaluations, communication of project activities to different audiences, hiring of staff, goods, consultant services, workshops, and training.

- a. Sub-Component 3.1: Monitoring, evaluation and knowledge management (US\$ 0.2 million of LDCF Financing): M&E will provide a tool for adaptive management and facilitate learning processes from experiences gained during project implementation. Knowledge management will be supported to facilitate the preparation and dissemination of supporting studies and lessons learned to inform future transport and coastal protection projects which will facilitate the further scaling-up following this project's lifetime. Ex-post evaluation studies will be disseminated through a publicly accessible, online forum, and ex-post evaluation workshops of the project with key stakeholders will be organized so as to capture lessons-learned and insights from stakeholders for future project works. Stakeholder evaluation reports will be integrated in revisions of ex-post evaluation studies.
- b. Sub-Component 3.2: **Project management unit (US\$ 0.6 of GEF Financing)**. Operating costs of the project implementation unit and all project management costs, including the operation and incremental costs of the Project Implementation Unit (PIU) to facilitate contract management for civil works, supervise consulting services under the project..

Component 4: Contingent Emergency Response Component (CERC) US\$0m.

This component aims to help the government respond swiftly to eligible crisis or emergency that affect the road sector, including climate and natural disasters. Including a contingent emergency response component, albeit with no funding, provides flexibility for an agile response to an imminent or actual emergency, in a similar fashion to the current transport project. Expenditures can include the rehabilitation or reconstruction of bridges, stabilization of slopes and restoration of passage for vehicles on key affected road links affected. No LDCF funds will be reallocated to this component in the case it is activated.

Indicative Project Overview

Project Objective

The main objective of this project is to enhance coastal resilience through climate resilient transport infrastructure, improved road safety and connectivity, facilitating access to markets, schools and services

Project Components

Component 1: Climate resilient road protection and rehabilitation

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Investment | LDCF |
| GEF Project Financing (\$) | Co-financing (\$) |
| 11,088,380.00 | 24,000,000.00 |

Outcome:

Improved climate resilience of key roads in the country

Output:

Component 2: Institutional development for climate resilient road asset management and improved road safety

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | LDCF |
| GEF Project Financing (\$) | Co-financing (\$) |
| 900,000.00 | 2,000,000.00 |

Outcome:

Enhanced Capacity for Resilient Road Asset Management (corresponds to outputs 2.1, 2.2, 2.3)

Increased road safety (corresponds to output 2.4)

Output:

M&E

| | |
|----------------------------|-------------------|
| Component Type | Trust Fund |
| Technical Assistance | LDCF |
| GEF Project Financing (\$) | Co-financing (\$) |
| 244,037.00 | 2,500,000.00 |

Outcome:

Facilitated implementation and M&E of project activities and increased knowledge

Output:

Component Balances

| Project Components | GEF Project Financing (\$) | Co-financing (\$) |
|---|----------------------------|-------------------|
| Component 1: Climate resilient road protection and rehabilitation | 11,088,380.00 | 24,000,000.00 |
| Component 2: Institutional development for climate resilient road asset management and improved road safety | 900,000.00 | 2,000,000.00 |

| | | |
|--------------------------------|----------------------|----------------------|
| M&E | 244,037.00 | 2,500,000.00 |
| Subtotal | 12,232,417.00 | 28,500,000.00 |
| Project Management Cost | 611,620.00 | 1,500,000.00 |
| Total Project Cost (\$) | 12,844,037.00 | 30,000,000.00 |

Please provide justification

Coordination and Cooperation with Ongoing Initiatives and Project

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

The World Bank will not be providing an executing role in the project. The project team is currently discussing with the country to have the project executed through the authority of the Ministry of Infrastructure and National Resources (MIRN). The proposed project scope will mostly cover road rehabilitation and improvement on roads under jurisdiction of the National Road Institute (INAE). The Project Implementation Unit (PIU) will be hired by the Agência Fiduciária de Administração de Projectos (AFAP) as most other World Bank Projects. During project preparation, a capacity assessment will be carried out to review progress in AFAP's reform, and evaluate its capability to perform technical, fiduciary, monitoring and evaluation and safeguards functions and evaluate possible alternatives. A final decision on the implementation arrangement will be made by the project's appraisal.

The project will coordinate with non-GEF entities, such as the GCF and its National Adaptation Plan Project, to ensure that the resulting NAP and this project's activities and outcomes are aligned with the country's adaptation plans.

The Project will build upon and coordinate road restoration activities with the initiatives planned under GEF Projects in Sao Tome. In particular, the project will ensure that activities align with the goals and designs of road restoration works in the LDCF's West Africa Coastal Area Resilience Investment Project, which will support community adaptation investment plans, undertake adaptation and flood prevention measures such as drainage and revegetation, and support ecosystem-based approaches, such as mangrove planting and restoration. The Project will also closely align with GEF's Enhance the adaptative capacity to floods and water security in Sao Tome and Principe, whose aim to prevent flooding through improved climate adaptation capacity and infrastructure is well-aligned with this project's objective. The project will also be in line with several of the gender-related activities under the UNDP's Enhance the adaptative capacity to floods and water security in Sao Tome and Principe, particularly the activity that will mobilize a strong participation of women and youth communities small-scale adaptation activities for flood and drought resilience.

The project will build synergies with the STP Coastal Areas Resilience and Sustainable Tourism Project (P180982) which aims to reduce STP's present and future vulnerability to climate change and leverage private investment in tourism and related sectors, in line with the Evolution Roadmap. The

project will also build on the ongoing health (STP Covid-19 Emergency Response Project - P173783) and education (Girls Empowerment and Quality Education for All - P169222) projects and the proposed human development project. Moreover, with the focus on transversal skill and especially social and environmental capacity building, the project will support the strengthening of the environmental risk management aspects of almost all the projects in the portfolio.

Core Indicators

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

META INFORMATION – LDCF

| | | |
|--|--|--|
| LDCF true | SCCF-B (Window B) on technology transfer false | SCCF-A (Window-A) on climate Change adaptation false |
| Is this project LDCF SCCF challenge program? false | | |
| This Project involves at least one small island developing State(SIDS). true | | |
| This Project involves at least one fragile and conflict affected state. true | | |
| This Project will provide direct adaptation benefits to the private sector. false | | |
| This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false | | |
| This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below | | |
| Green Climate Fund false | Adaptation Fund false | Pilot Program for Climate Resilience (PPCR) false |
| This Project has an urban focus. true | | |
| This project will directly engage local communities in project design and implementation true | | |
| This project will support South-South knowledge exchange false | | |
| This Project covers the following sector(s)[the total should be 100%]: * | | |
| Agriculture | 0.00% | |
| Nature-based management | 20.00% | |
| Climate information services | 20.00% | |
| Coastal zone management | 25.00% | |
| Water resources management | 0.00% | |
| Disaster risk management | 25.00% | |
| Other infrastructure | 10.00% | |
| Tourism | 0.00% | |
| Health | 0.00% | |
| Other (Please specify comments) | | |

| | | |
|---|--|---|
| | | 0.00% |
| Total | | 100.00% |
| This Project targets the following Climate change Exacerbated/introduced challenges:* | | |
| Sea level rise true | Change in mean temperature false | Increased climatic variability true |
| | | Natural hazards false |
| Land degradation true | Coastal and/or Coral reef degradation true | Groundwater quality/quantity false |

CORE INDICATORS – LDCF

| | Total | Male | Female | % for Women |
|---|--------------|----------|----------|-------------|
| CORE INDICATOR 1 Total number of direct beneficiaries | 15,140 | 7,570.00 | 7,570.00 | 50.00% |
| CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha) | 0.00 0.00 | | | |
| CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation | 2.00 | | | |
| CORE INDICATOR 4 Number of people trained or with awareness raised | 1640 | 820.00 | 820.00 | 50.00% |
| CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action | 0.00 | | | |

Key Risks

| | Rating | Explanation of risk and mitigation measures |
|---------|-------------|---|
| CONTEXT | | |
| Climate | Substantial | As a small island developing state, STP is highly vulnerable to the effects of climate change and sea level rise. STP shares many of the challenges affecting other West African coastal countries and other small island nations: severe coastal erosion and shoreline loss; overexploitation of fisheries and coastal aggregates; coastal pollution; rapid urbanization and unsustainable land use; and overlapping policies affecting the governance of the coast. The negative impacts of Climate Change are evident in all sectors of the national economy including transport and |

| | | |
|---------------------------------|--------------------|---|
| | | <p>coastal zones and population. Climate change adaptation and risk reduction from climate change impact is a priority for the national authorities. STP has taken steps to identify measures to contribute to the reduction of national greenhouse gas (GHG) emissions and improve resilience to climate change. However, the implementation of these measures both for adaptation and mitigation requires financial resources and institutional capacity.</p> |
| <p>Environmental and Social</p> | <p>Substantial</p> | <p>The environmental and social risk is also rated as substantial. The environmental risk classification of the proposed Project is Substantial due to anticipated environmental risks and impacts (road traffic and OHS incidents, pollution, erosion, etc.), medium scale construction, and the National Institute of Roads (INAE) low capacity and inexperience with ESF projects. The social risks are deemed Moderate, mainly confined along the Guadalupe-Neves and Lagarto Bay roads, expected to occur mainly during construction phases, and be mostly site specific, reversible, and temporary. Main social risks and impacts are related to: i) INAE's limited knowledge and experience on social risks and impacts management under the ESF; ii) involuntary resettlement impacts resulting in physical and/or economic displacement due to roads rehabilitation under component; iii) labor influx issues resulting from construction works; and iv) occupational health and safety concerns to contracted as well as community health and safety risks. For the rehabilitation of the Guadalupe-Neves road EN1, the Borrower will benefit from the technical studies and E&S instruments already prepared under the Transport Sector Development and Coastal Protection Project (PTSDCP), including ESIA/ESMP and RAP for the Guadalupe-Neves road EN1, which will be updated to cover the E&S risks of the proposed Second Sao Tome e Principe Transport Sector Development and Coastal Protection Project (STDCPP). Regarding the rehabilitation of the Lagarto Bay road, the European Investment Bank Group (EIB) and the Dutch government had developed an ESIA/ESMP and RAP. The Borrower will benefit from them by updating them based on the technical studies. An overall Environmental and Social Commitment Plan, Labor Management Procedures, and Stakeholder Engagement Plan will be also developed to cover the overall Project's E&S risks.</p> |
| <p>Political and Governance</p> | <p>Moderate</p> | <p>Political and Governance risk is rated substantial. Generally considered a politically stable country in the region, STP recently experienced political instability due to an attempted coup d'état on 24-25 November 2022, ten days after the swearing-in of the new government. The project will support the strengthening of the regulatory and institutional framework of the road sector. However, there is a risk of low enforcement of key legislation relevant to the project, such as the legal instruments that create revenue sources for the FRN, which are used by INAE for road maintenance. Technical assistance under sub-component 2.2 will be key to mitigate this risk.</p> |

INNOVATION

| | | |
|------------------------------|--|-----|
| Institutional and Policy | | N/A |
| Technological | | N/A |
| Financial and Business Model | | N/A |

EXECUTION

| | | |
|-----------|-------------|---|
| Capacity | Moderate | <p>STP has a legal and regulatory framework in place for environmental and social issues. However, as required under the new Environmental and Social Framework (ESF), several aspects have not been addressed in standard Environmental and Social Impact Assessments (ESIAs) and other related E&S instruments. As such, reliance on the Borrower's E&S framework is not considered to be appropriate. The proposed Project will be under the authority of the Ministry of Infrastructure, National Resources, and Environment (MoI). Its scope will mostly cover road rehabilitation and costal protection under the jurisdiction of the National Institute of Roads (INAE). INAE has been managing E&S risks under the Transport Sector Development and Coastal Protection Project (P161842), gaining some experience with the WB safeguards operations policies. Nonetheless, INAE E&S management capacity is very weak, and they are not familiar with the ESF. To strengthen the overall E&S management capacity under the MoI/INAE, the new Project Implementation Unit (PIU) will hire one dedicated environmental specialist, one social development specialist and one GBV/SEA/SH specialist. At the current status of project's preparation, it's still unclear where the overall PIU will be hosted. It might be that, as for the current transport project and for most of the recently approved WBG STP projects, the Project Administration and Fiduciary Agency (AFAP) will host just the Project's fiduciary aspects, and E&S aspects will be housed under the MoI/INAE. An MoI/INAE and AFAP's capacity assessment will be carried out before project appraisal to review both institutions capability to perform E&S management functions and evaluate possible alternatives and consider the adoption of Good International Industry Practice (GIIP) and other best practices in the region.</p> |
| Fiduciary | Substantial | <p>The overall financial management risk rating at the concept stage is Substantial. The project will be implemented by AFAP (Agência Fiduciária Administração de Projectos in Portuguese), who is well versed with the World Bank financial management procedures, and it is currently managing the P161842 Sao Tome e Principe Transport Sector Development and Coastal Protection Project. Hence, the new project's implementation will rely on the current AFAP institutional arrangements. A full financial management assessment will be carried out in accordance with the Directives and Policy for Investment Project Financing (IPF) and the Bank Guidance - Financial Management Manual</p> |

| | | |
|---------------------|-------------|---|
| | | for World Bank Investments Project Financing Operations, issued on September 7, 2021 (OPS5.05-GUID.180). It will examine whether the AFAP provides reasonable assurance that financing proceeds will be used for their intended purposes, due to the principle of economy, efficiency, effectiveness, transparency, and accountability. The financial management systems assessed will include planning, budgeting, accounting, internal controls, funds flow, financial reporting, and if the auditing system provides reasonable assurance on the appropriate use of program funds and safeguarding of its assets. |
| Stakeholder | Low | N/A |
| Other | Substantial | Macroeconomic risk is rated substantial. STP's macroeconomic situation is fragile as the country continues to be highly dependent on aid flows and faces an energy crisis negatively affecting public finances and growth. A deepening crisis puts pressure on STP's exchange rate regime, affects financial sector stability and undermines implementation of policies supported by this project, as well as negatively affecting perceptions in tourism markets. The expected agreement with the IMF and support from the Development Policy Operation will help mitigate this risk. Procurement risk is rated Substantial. Procurement capacity risk assessments will be conducted during project preparation to have more specific and detailed mitigation solutions. Procurement under the Project will be done in accordance with the WB's Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services, dated November 2020, and as amended then. The project will be subject to the WB's Anticorruption Guidelines, dated October 15, 2006, revised in January 2011, and as of July 1, 2016, and other provisions stipulated in the Financing Agreement. The Project will use the Systematic tracking of Exchanges in Procurement (STEP) to plan, record, and track procurement transactions. During project preparation, a Procurement Strategy for Development (PPSD) document will be prepared by the Borrower, with Bank support, as well as the Procurement Plan for the first 18 months. The implementing agency's capacity will be assessed during appraisal and adequate measures will be proposed to ensure the project has strong procurement arrangements in place with adequate staff and procedures. |
| Overall Risk Rating | Substantial | The overall project implementation risk is rated as "Substantial". This is mainly due to the substantial risk associated with the institutional capacity for project implementation of World Bank operations, fiduciary guidelines, and Environmental and Social risk management. This a preliminary assessment in nature and will be expanded and revisited as part of the ESA, when more information about the nature and scope of a |

| | | |
|--|--|---|
| | | project becomes available or when project definition and circumstances change. A new assessment will be conducted at the appraisal stage. |
|--|--|---|

A. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The proposed project is well aligned with the Country Partnership Framework, which aims to strengthen resilience at the level of the Santomean economy, its' people, and environment. The CPF covers the FY24-29 period and is aligned with preliminary directions of a forthcoming government National Development Plan. The CPF is designed around one high level outcome: enhanced multi-dimensional resilience. It includes as objectives the development of a climate-resilient road network to further the development of the domestic economy while minimizing the impact on the environment (Objective 4) and increasing climate resilience of coastal communities (objective 5). By supporting investments in resilient infrastructure, institutional strengthening and fostering coastal resilience, this project contributes to these objectives. The project is aligned with IDA20 themes on climate change and gender. The project objectives are also well aligned with Theme 3: Nature-Based Solutions and Priority Area 1: Scaling Up Finance of the GEF Programming Strategy on Adaptation to Climate Change for the Least Developed Countries Fund and the Special Climate Change Fund 2022-2026.^[1] Moreover, the climate resilient infrastructure is a focus of the current strategy, considering its impact on system resilience.

The proposed project will contribute to the implementation of STP's climate priorities. The NDC (2021) includes as commitments increasing the resilience of vulnerable communities and a 27 percent emission reduction by 2030. Adaptation measures include strengthening resilience and adaptation of coastal communities. The NDC implementation plan's objective is to reduce climate-related risks and increase the resilience of communities and sectors by strengthening technical and institutional capacities, investments and mainstreaming climate resilience into national and subnational planning in key sectors, including transport^[2]. In addition, the project aims to contribute to the National Adaptation Program of Action (NAPA), which calls for the construction and rehabilitation of roads and bridges, as well as the National Strategy for Natural Disaster Risk Management (2016), which highlights coastal flooding and erosion as some of the main climate pressures that threaten the country's resilience.

The project will build synergies with the STP Coastal Areas Resilience and Sustainable Tourism Project (P180982) which aims to reduce STP's present and future vulnerability to climate change and leverage private investment in tourism and related sectors, in line with the Evolution Roadmap. The project will also build on the ongoing health (STP Covid-19 Emergency Response Project - P173783) and education (Girls Empowerment and Quality Education for All - P169222) projects and the proposed human development project. Moreover, with the focus on transversal skill and especially social and

environmental capacity building, the project will support the strengthening of the environmental risk management aspects of almost all the projects in the portfolio.

This project is highly aligned with multiple GEF-8 programming strategies, particularly the Blue and Green Islands Integrated Program (BGIP). One of the main goals of the BGIP is to address landscape-level challenges in the urban sector through nature-based solutions in SIDS; this goal particularly aims to address urban flooding and restore degraded productive landscapes or conservation of natural areas in peri-urban and rural areas. Further, the GEF-8 Programming Strategy on Adaptation to Climate Change for the LDCF and SCCF aims to facilitate transformational adaptation by focusing entry points, themes and scales of interventions across different vulnerable systems. In particular, the projects are aligned with Theme 3: Nature-Based Solutions, which, aims to address socio-economic priorities of LDCs and SIDS, support policies that can help scale up NBS, and demonstrate the case for nature-based infrastructure over gray infrastructure, among other objectives. In addition, the strategy includes climate resilient infrastructure among additional themes that could provide adaptation solutions in vulnerable countries. By focusing on coastal areas and strengthening climate resilient infrastructure and services, the project is also well aligned with the strategy's intervention scales. Specifically, the protection and rehabilitation of key roads included in Component 1 i seek to use nature-based solutions to reduce the impact of coastal erosion. In particular, the rehabilitation and coastal protection of the Lagarto Bay road from the airport of Sao Tome include the reinforcement of the coastline, such as through the revegetation of coastlines to act as a buffer against storm surge. Given that the roads targeted by the project provide an important transport link between cities and services, these activities can also help to increase the resilience of the people of STP. Further, this project aims to improve the capacity of community organizations of Sao Tome to implement nature-based solutions in the regular maintenance and improvement of transport infrastructure of the country. Indeed, STP has a long history of mobilizing road management community associations, known as GIMEs (Grupos de Interesse para Manutenção de Estradas); these groups have long depended on road management work for their income, and allow for the community to be involved in road safety and improvement. Recognizing the importance of integrating local communities into the fabric of sustainable road infrastructure management, this project also aims to improve the capacity and technical abilities of GIMEs to implement and manage NBS in STP for road infrastructure management. Activity 2.1 (Finance a new generation of GIMEs¹ in the area of influence of N1, by piloting small-scale maintenance, including nature-based solutions and road safety interventions) will use funding to train GIMEs on the use and implementation of NBS in their works, allowing for a key transfer of knowledge of the role of natural landscapes in infrastructure management, and transmit the value of protecting natural landscapes for generations. The project is also aligned with the transformation levers identified in the strategy, and particularly: 1) policy coherence and mainstreaming of climate adaptation, as activities under component 2 aim to mainstream climate adaptation and gender considerations in national transport policies.

The rehabilitation of roads and other transport infrastructure (bridges) is embedded in STP's most recent National Adaptation Program of Action (NAPA); specifically, STP's NAPA calls for (1) the construction and rehabilitation of roads and bridges, as well as (2) beach rehabilitation and protection of tourist areas. These two priority areas are, respectively, the 3rd and 2nd most important priority areas in STP's NAPA. Interestingly, these two priority areas can be addressed through nature-based solutions that simultaneously rehabilitate beaches, all the while offering natural protection to roads through, for example, planted vegetation and sediment deposition on the beach front, which can act as a flood control and storm surge measure. The project also aims to address the same pressures outlined in STP National Strategy for Natural Disaster Risk Management (2016), which highlights coastal flooding and erosion as some of the main climate pressures that threaten the country's resilience. The spirit of this project is also well aligned with multilateral projects between Sao Tome and international donors, such as the European

Union, which financed the Programme for Rehabilitation Maintenance of the Road Network (2005); this project would go a step further and ensure that road protection and maintenance is undertaken in a way that prioritizes and implements NBS solutions to address the climate pressures outlined by the country's national disaster management documents. Finally, this project embodies the ambitions of STP's NDC climate adaptation objective of reinforcing the resilience of the coastal sector.

[1] GEF/LDCF.SCCF.32/04/Rev.01 May 31, 2022

[2] Government of SAO Tome and Principe (2021). Updated Nationally Determined Contribution

B. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations:

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

Currently the project consultation have been limited to the public sector (Government, ministries); during project preparation the team will be engaging with private sector, local communities, and civil society organizations.

The National Institute of Meteorology was a part of a stakeholder consultation session held in December 2023, among other sectoral actors. More information on the role stakeholders will play in the project is provided in the Data Sheet. The hydromet will indeed play a key role in establishing an updated climate baseline assessment for the project at the inception stage.

To ensure a participatory, inclusive, and culturally appropriate approach during the project's life cycle, the Borrower will prepare a Stakeholder Engagement Plan (SEP). The SEP will be consulted upon and disclosed before Appraisal. The SEP will include other interested parties (OIPs), various beneficiaries and directly impacted project affected persons (PAPs), including disadvantaged and vulnerable groups. So, at this stage, the client will start to draft the consultation with key project stakeholder groups, including local communities

and civil society for the SEP. Then, prior any construction activities, will organize public consultation with the stakeholder.

Public investment in road infrastructure is a key tool for the GoSTP for promoting the country’s development, including for the involvement of the private sector in scaling-up activities. Road network development and coast management in STP at present can only be initially accomplished through government actions, but opportunities to consolidate the current road and coastal management and maintenance arrangements of the infrastructure activities using GIMEs and private operators will be analyzed through the project. Indeed, governmental actions, with the financial support of international institutions and capacity support of local communities (GIMES) will act as long-term catalysts for the involvement of private sector actors to further scale these activities to other areas of STP.

List of stakeholders engaged are listed below. An Annex of the summary of consultation and detailed list of stakeholders had been uploaded in the roadmap.

- 3 environment and climate related agencies (INM, INA/DGRNE, DGAAC)
- 3 disaster management and civil protection authorities (CONPREC, Police and Firefighters)
- 2 infrastructure agencies (INAE, EMAE)
- 2 local municipalities (Lembá and Lobato)
- 2 civil associations (GIME and local committees)
- 1 private company (ENCO)

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

| PIF | CEO Endorsement/Approval | MTR | TE |
|---------------------|--------------------------|-----|----|
| High or Substantial | | | |

C. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

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

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | Grant / Non-Grant | GEF Project Grant(\$) | Agency Fee(\$) | Total GEF Financing (\$) |
|---------------------------------|------------|---------------------------------|----------------|-------------------------|-------------------|-----------------------|---------------------|--------------------------|
| World Bank | LDCF | Sao Tome and Principe | Climate Change | LDCF Country allocation | Grant | 12,844,037.00 | 1,155,963.00 | 14,000,000.00 |
| Total GEF Resources (\$) | | | | | | 12,844,037.00 | 1,155,963.00 | 14,000,000.00 |

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

false

PPG Amount (\$)

PPG Agency Fee (\$)

| GEF Agency | Trust Fund | Country/ Regional / Global | Focal Area | Programming of Funds | PPG(\$) | Agency Fee(\$) | Total PPG Funding(\$) |
|------------------------------|------------|----------------------------------|------------|----------------------|-------------|----------------|-----------------------|
| Total PPG Amount (\$) | | | | | 0.00 | 0.00 | 0.00 |

Please provide justification

Sources of Funds for Country Star Allocation

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Sources of Funds | Total(\$) |
|------------|------------|---------------------------------|------------|------------------|-----------|
|------------|------------|---------------------------------|------------|------------------|-----------|

Total GEF Resources

0.00

Indicative Focal Area Elements

| Programming Directions | Trust Fund | GEF Project Financing(\$) | Co-financing(\$) |
|---------------------------|------------|---------------------------|----------------------|
| CCA-1-1 | LDCF | 9,065,827.00 | 21,840,000.00 |
| CCA-1-4 | LDCF | 3,778,210.00 | 8,160,000.00 |
| Total Project Cost | | 12,844,037.00 | 30,000,000.00 |

Indicative Co-financing

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount(\$) |
|---------------------------|----------------------|----------------------|----------------------|----------------------|
| GEF Agency | World Bank | Grant | Investment mobilized | 30,000,000.00 |
| Total Co-financing | | | | 30,000,000.00 |

Describe how any "Investment Mobilized" was identified

The GEF LDCF project will be fully blended with the \$30 million World Bank IDA Grant project as reflected in the World Bank PCN. The bank team will be planning for additional sources of co-financing during project preparation.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

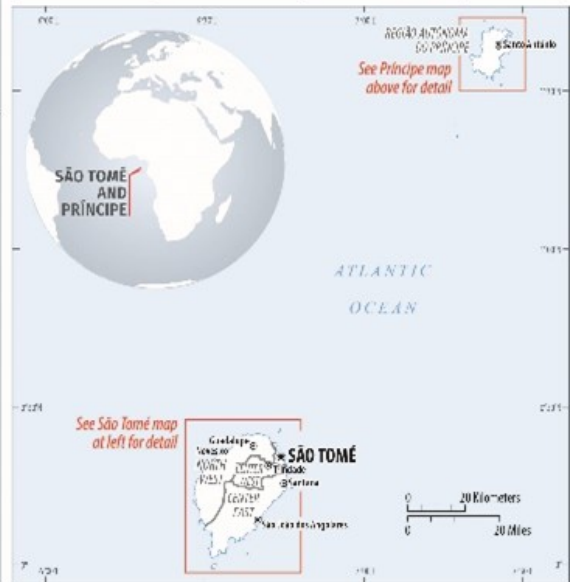
| GEF Agency Type | Name | Date | Project Contact Person | Phone | Email |
|------------------------|------------------|-----------|------------------------|-------|--------------------------|
| GEF Agency Coordinator | Angela Armstrong | 3/19/2024 | Juan Miguel Velasquez | | jvelasquez@worldbank.org |

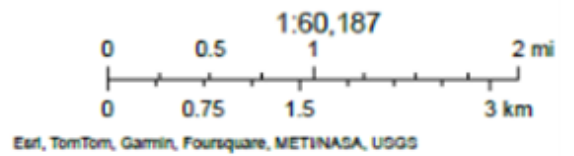
Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

| Name | Position | Ministry | Date (MM/DD/YYYY) |
|----------------------------|--|--|----------------------|
| Darnel Helio De Sousa Baia | Chemical Engineer - Directorate General for Environment and Climate Action | Ministry for Infrastructure, Natural Resources and Environment | 2/9/2024 |

ANNEX C: PROJECT LOCATION

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





ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Concept ESRS

ANNEX E: RIO MARKERS

| Climate Change Mitigation | Climate Change Adaptation | Biodiversity | Land Degradation |
|---------------------------|---------------------------|-------------------|-------------------|
| Significant Objective 1 | Principal Objective 2 | No Contribution 0 | No Contribution 0 |

ANNEX F: TAXONOMY WORKSHEET

Taxonomy as selected by the project below:

Influencing models, Stakeholders, Gender Equality, Focal Areas, Climate Change, Climate Change Adaptation, Private sector, Ecosystem-based Adaptation, Sea-level rise, Mainstreaming adaptation, Least Developed Countries, Climate resilience, Community-based adaptation, Disaster risk management, Climate information, United Nations Framework Convention on Climate Change, Nationally Determined Contribution, Climate Change Mitigation, Sustainable Urban Systems and Transport, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Local Communities, Type of Engagement, Information Dissemination, Consultation, Communications, Public Campaigns, Awareness Raising, Behavior change, Private Sector, Beneficiaries, Civil Society, Community Based Organization, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Access and control over natural resources, Participation and leadership, Capacity Development, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Knowledge Exchange, Learning, Theory of change, Knowledge Generation