GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title	
Strengthening Climate Resilience on the Comoros Coastal Zone Through Ecosystem-based Adaptation	
Region Comoros	GEF Project ID 11111
Country(ies) Comoros	Type of Project FSP
GEF Agency(ies): UNEP	GEF Agency ID N/A
Executing Partner Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts	Executing Partner Type Government
GEF Focal Area (s) Climate Change	Submission Date 4/11/2023
Project Sector (CCM Only) Climate Change Adaptation Sector	
Taxonomy Focal Areas, Influencing models, Stakeholders, Gender Equality, Integrated Programs, Capacity, Knowledge and Research, Climate Change, Climate Change Adaptation, Ecosystem-based Adaptation, Least Developed Countries, Climate resilience, Sea-level rise, Adaptation Tech Transfer, Small Island Developing States, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Local Communities, Communications, Public Campaigns, Behavior change, Awareness Raising, Type of Engagement, Consultation, Participation, Private Sector, Individuals/Entrepreneurs, SMEs, Non-Grant Pilot, Beneficiaries, Civil Society, Community Based Organization, Academia, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Women groups, Gender results areas, Knowledge Generation and Exchange, Capacity Development, Access and control over natural resources, Participation and leadership, Access to benefits and services, Learning, Innovation, Enabling Activities, Knowledge Generation	
Type of Trust Fund LDCF	Project Duration (Months) 60
GEF Project Grant: (a) 8,925,000.00	GEF Project Non-Grant: (b) 0.00
Agency Fee(s) Grant: (c) 847,875.00	Agency Fee(s) Non-Grant (d) 0.00
Total GEF Financing: (a+b+c+d) 9,772,875.00	Total Co-financing 22,851,691.00

PPG Amount: (e)	PPG Agency Fee(s): (f)
200,000.00	19,000.00
PPG total amount: (e+f)	Total GEF Resources: (a+b+c+d+e+f)
219,000.00	9,991,875.00
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 Comoros are highly exposed to climate hazards, and climate projections indicate that in the future the country will suffer from more extreme heat; will encounter a high probability of cyclone intensification and erratic regional cyclone routes, with the expected frequency of damaging tropical cyclone winds having more than a 20% chance of potentially-damaging wind speeds in the next 10 years; and projected sea level rise under the scenarios RCP4.5 and RCP8.5 indicates an increase of sea-level of respectively +27cm and +28cm. This is expected to exacerbate storm surges, coastal flooding, and erosion. The coastal communities of Comoros hence face high vulnerability to climate hazards, where both economic activities and coastal protection are highly dependent on having healthy coastal ecosystems which provide valuable protective, regulating and productive services. However, restoring and maintaining ecosystem health requires the reduction or removal of pressures that exacerbate ecosystem fragility and undermine their ability to recover from climate shocks. The project objective is to *"Reduce the vulnerability of Comorian coastal zone communities to climate change by restoring, protecting, and sustainably managing coastal ecosystems that provide protective, regulating, and productive ecosystem services".* To help lower the barriers to adaptation and achieve the main objective, the project proposes six (6) complementary pathways: 1) Capacitating actors to plan and coordinate implementation of gender sensitive Ecosystem-based Adaptation (EbA) actions in coastal zones; 2) Capacitating actors to monitor and report results from EbA actions, contributing to generation of new knowledge, and enabling evidence-based adaptation decision-making and financing; 3) Transferring the management of coastal resources to local communities and building capacity for enforcement, to build ownership and contribute to behavioral change towards sustained protection of key ecosystems; 4) Supporting a participatory approach to ecosystem restoration which contributes to behavioral change towards sustained protection of ecosystems and adaptation benefits, secure livelihoods and protect lives; 5) Capacitating a network of business coaches and incubators, and raising awareness within micro-financing sector of the needs of local fisher communities; and 6) Awareness raising with stakeholders to foster behavioral change towards adoption of good practices for increased resilience of local communities, including vulnerable groups, to climate hazards. The project intends to bring a range of adaptation benefits, including first and foremost increasing the resilience of people and ecosystems to the adverse impacts of climate change; as well as a range of co-benefits for biodiversity conservation and climate change mitigation through its restoration activities and focus on the local co-management of coastal and marine resources.

Indicative Project Overview

Project Objective

The Comoros are highly exposed to climate hazards, and climate projections indicate that in the future the country will suffer from more extreme heat; will encounter a high probability of cyclone intensification and erratic regional cyclone routes, with the expected frequency of damaging tropical cyclone winds having more than a 20% chance of potentially-damaging wind speeds in the next 10 years; and projected sea level rise under the scenarios RCP4.5 and RCP8.5 indicates an increase of sea-level of respectively +27cm and +28cm. This is expected to exacerbate storm surges, coastal flooding, and erosion. The coastal communities of Comoros hence face high vulnerability to climate hazards, where both economic activities and coastal protection are highly dependent on having healthy coastal ecosystems which provide valuable protective, regulating and productive services. However, restoring and maintaining ecosystem health requires the reduction or removal of pressures that exacerbate ecosystem fragility and undermine their ability to recover from climate shocks. The project objective is to "Reduce the vulnerability of Comorian coastal zone communities to climate change by restoring, protecting, and sustainably managing coastal ecosystems that provide protective, regulating, and productive ecosystem services". To help lower the barriers to adaptation and achieve the main objective, the project proposes six (6) complementary pathways: 1) Capacitating actors to plan and coordinate implementation of gender sensitive Ecosystem-based Adaptation (EbA) actions in coastal zones; 2) Capacitating actors to monitor and report results from EbA actions, contributing to generation of new knowledge, and enabling evidence-based adaptation decision-making and financing; 3) Transferring the management of coastal resources to local communities and building capacity for enforcement, to build ownership and contribute to behavioral change towards sustained protection of key ecosystems; 4) Supporting a participatory approach to ecosystem restoration which contributes to behavioral change towards sustained protection of ecosystems and adaptation benefits, secure livelihoods and protect lives; 5) Capacitating a network of business coaches and incubators, and raising awareness within micro-financing sector of the needs of local fisher communities; and 6) Awareness raising with stakeholders to foster behavioral change towards adoption of good practices for increased resilience of local communities, including vulnerable groups, to climate hazards. The project intends to bring a range of adaptation benefits, including first and foremost increasing the resilience of people and ecosystems to the adverse impacts of climate change; as well as a range of co-benefits for biodiversity conservation and climate change mitigation through its restoration activities and focus on the local co-management of coastal and marine resources.

Project Components

Component 1– Enabling environment for EbA implementation in coastal zones

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
1,520,000.00	4,400,021.00

Outcome:

Outcome 1.1: Capacity for gender sensitive adaptation planning at national and local levels is strengthened

Outcome 1.2: Capacity for local implementation, monitoring, and enforcement of ecosystem-based adaptation efforts is strengthened

Output:

Output 1.1.1 A policy coherence review is conducted and supports the mainstreaming of national adaptation priorities (NDC, NAP) and gender considerations in key policies and plans

Output 1.1.2 Nine (9) local plans for integrated and gender sensitive management and development of the coastal zone (PLAGIZC[1][1]) are developed and integrate climate risks (outside of Protected Areas)

Output 1.2.1 Co-management of marine and coastal resources is established in 14 coastal communities
Output 1.2.2 Support for the enforcement of environmental law in relation to EbA efforts in coastal zones for 1,450 municipal employees (750 men – 700, women), traditional and religious authorities, customary law officials
Output 1.2.3. Participatory system set up to monitor at least six (6) ecological indicators of adaptation impacts

[1] Plans locaux d'adaptation et de gestion intégrée de la zone côtière (PLAGIZC)

Component 2: Restoration and improved management of coastal ecosystems for climate resilience

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing ($)	**Co-financing ($)**
3,130,000.00	8,800,041.00

Outcome:

Outcome 2.1: Communities have enhanced technical skills and resources to manage 2,500 ha of coastal and marine areas and 1,500ha of land for climate resilience

Output:

Output 2.1.1. Participatory restoration and management of 15 ha of mangroves

Output 2.1.2 Participatory restoration and management of 3km of coast, of which 1km of degraded beaches and 2km of shoreline

Output 2.1.3 Participatory restoration of 1,500 ha of rural landscape upstream from the coastal zone

Output 2.1.4 Technical trainings on sustainable and climate-smart exploitation of land, forest, and fisheries and provision of related materials for 1,000 people (500 men, 500 women)

Output 2.1.5 At least one environmentally sustainable and economically viable alternative to sand mining demonstrated

Component 3: Fostering Participation in the Blue Economy

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing ($)	**Co-financing ($)**
3,130,000.00	6,868,325.00

Outcome:

Outcome 3.1: Enhanced access to business services for climate-resilient MSMEs

Output:

Output 3.1.1 50 MSMEs are incubated/accelerated through the support of business coaches, with a focus on women-led businesses

Output 3.1.2. Small scale financing facilities tailored to the needs of fishers and MSMEs

Component 4: Knowledge Management and Learning

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
450,000.00	1,395,128.00

Outcome:

Outcome 4.1: Increased awareness of good EbA practices and dissemination of lessons learned for scaling up results

Output:

Output 4.1.1: Awareness raising on good practices to enable scaling up

M&E

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
270,000.00	300,000.00

Outcome:

Monitoring and evaluation

Output:

Monitoring and Evaluation Plan

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
Component 1– Enabling environment for EbA implementation in coastal zones	1,520,000.00	4,400,021.00

Component 2: Restoration and improved management of coastal ecosystems for climate resilience	3,130,000.00	8,800,041.00
Component 3: Fostering Participation in the Blue Economy	3,130,000.00	6,868,325.00
Component 4: Knowledge Management and Learning	450,000.00	1,395,128.00
M&E	270,000.00	300,000.00
Subtotal	**8,500,000.00**	**21,763,515.00**
Project Management Cost	425,000.00	1,088,176.00
Total Project Cost ($)	**8,925,000.00**	**22,851,691.00**

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Overview

The Union of the Comoros is a Least Developed Country (LDC) that is ranked 156 out of the 191 countries and territories rated under the Human Development Index in 2021[1][2]. It is an archipelago located in the Indian Ocean, North-West of Madagascar, composed of three islands (Ngazidja, Mohéli and Anjouan) which make up the Union of the Comoros and a fourth island (Mayotte) which is an overseas "*Département*" of France. Coastal communities are highly dependent on marine and coastal ecosystems for both coastal protection (e.g. mitigation of wave energy), and livelihoods and economy. They are also highly sensitive to climate hazards, with two thirds of the country's 822,000 inhabitants living less than 2 km away from the coastline[2][3], and with 57 towns and villages in the coastal zone located less than 6 meters above sea level[3][4]. Coastal areas also host most of the country's key infrastructures including ports, airports, power plants, water plants, oil and gas depots, and roads. On the island of Anjouan, 50% of the primary road network is located at an elevation of less than 20 m above sea level[4][5].

The economy of the Comoros is poorly diversified and among the most food-import dependent in the world[5][6]. Agriculture is the leading sector in terms of provision of jobs and represented 35.5% of the national GDP in 2021[6][7]. The sector is divided between i) familial subsistence rainfed agriculture occupying 80% of the rural population and producing mainly maize, cassava, bananas, taro, potatoes and coconuts[7][8]; and ii) commercial agriculture, based on three cash crops (vanilla, ylang ylang and cloves) which produces the bulk of the country's exports[8][9]. Fishing is also an important component of the primary sector since it accounts for nearly a quarter of agricultural GDP (7.5% of national GDP) and directly employs around 5% of the active population[9][10]. Some communities (in Mohéli in particular) depend exclusively on the resources offered by artisanal fishing in the reef for their subsistence.

Services remain largely underdeveloped and dominated by the informal economy and the public sector. In contrast to other countries in the south-western Indian Ocean, the tourism sector remains at an embryonic stage in Comoros, although it has a considerable potential.

State of Coastal and Marine Ecosystems

As part of the Madagascar & Indian Ocean Islands biodiversity Hotspot, it is one of the planet's richest areas in terms of biodiversity, but ecosystems face major anthropogenic and climate threats, directly affecting local communities[10][11].

Mangroves

Low altitudes and coastal areas host wetlands, including mangroves, that are particularly important in terms of endemic biodiversity and with regards to the environmental services they provide (carbon sequestration, water filtration, spawning area, etc)[11][12], including coastal protection. Comorian mangroves are subject to overharvesting for firewood, timber and charcoal; clearing and conversion to other land uses such as agriculture, aquaculture, urban development, tourism and salt production; pollution; sedimentation and changes in river flow.[12][13] In this respect, the Comoros has lost about 8 per cent of its mangrove cover at a rate of 0.3 ha/yr due to overharvesting[13][14]. According to the World Map of Mangroves, Comoros still has over 100 ha of mangroves, most of which are located on Moheli, whose restoration and sustainable management would bring tremendous long-term value in terms of commercial fisheries and flood control or prevention[14][15], including sites in Ourovéni, Mitsamiouli and Bimbini.

Coral reefs and seagrass meadows

Marine ecosystems in the Comoros include coral reefs and seagrass meadows. These ecosystems are critical for the marine biodiversity and biomass production acting as refuge or spawning areas for many species. They also are of crucial importance as they deliver important ecosystem services at local to global scale: provision of food; energy wave absorption; recreative opportunities; reduction of floods; water filtration; carbon sequestration; and mitigation of impacts of extreme climate events such as hurricanes and tropical storms[15][16],[16][17]. Human pressures on reefs and seagrass meadows, be they direct or indirect, include unsustainable fishing practices (dynamite fishing, uncontrolled anchorage, trawling or digging); terrestrial and off-shore pollution and sewage; sand and reed mining; and change in sediment concentration and overload as a result of in-land deforestation and unsustainable agricultural practices[17][18]. Between 2001 and 2021, Comoros lost 4.3% of its vegetative

cover[18][19] due to deforestation linked with agricultural expansion and urban development. Moreover, poor agricultural practices (e.g. slash and burn practices; total land clearing; planting on steep slopes without soil conservation measures) are contributing to land degradation. Degraded lands in watersheds have reduced capacity to naturally retain rainwater, thus increasing surface water flows and erosion. At times, extreme rainfall events leads streams to overflow their natural channels, leading to flooding in coastal areas downstream.[19][20] Soil material transported down watersheds deposits on the near shore reef further compromise the productivity and recovery capacity of the reefs.[20][21] However, data on coral reefs and seagrass beds' damage or general health are scarce in the West Indian Ocean region, including in Comoros.[21][22]

Coastline

Sand extraction from beaches for construction purpose is a common practice in Comoros. It is problematic in particular in Anjouan as, despite the legal ban imposed in 1994[22][23], it has been proven to be responsible for the disappearance of significant proportions (between 39% and 54%) of beaches on the three islands of the archipelago[23][24]. This practice has played a major role in the general retreat of the coastline over the last two decades[24][25] which phenomenon is now directly threatening key infrastructure (such as routes) of collapsing into the sea[25][26]. Ironically, this increase in sand extraction is linked to an increase in demand for "hard", weather resistant housing.[26][27] This is a maladaptation, as it leads to a loss of the beach buffer functionality against wave energy and increases exposure to climate hazard thereby accentuating coastal vulnerability.[27][28]

Climate

Comoros has a tropical monsoon climate[28][29] which is defined by an alternating wet season (from mid-November to mid-April) and dry season (from mid-June to mid-October) due to the shifting direction of trade winds from land to sea and vice versa[29][30]. For the period 1991-2020, monthly mean-temperature ranged between 25.0°C in January and 21.1°C in August while monthly mean-precipitation averaged between 830mm in January and 79mm in September. The wet season is characterized by hot and humid weather with frequent

storms, including tropical cyclones that are concentrated between January and April. The dry season brings lower humidity and the lowest temperatures of the year[30][31].

Observed climate change

Amongst key climate trends observed at national scale are i) an increased average annual temperature, with the largest increase observed during the rainy season, in particular from March to May[31][32]; ii) a decrease in mean-annual precipitation; iii) an increased interannual and inter-decadal variability of the rainy season and a shortened duration[32][33]; iv) sea level rise (+1mm/year up to +6mm/year since 1992[33][34]); and v) an increased frequency and intensity of extreme events including tropical storms, floods, and droughts[34][35]. These hazards are increasingly causing economic losses and casualties as well as affecting ecosystems and their ability to provide ecological services, thus further affecting livelihoods of Comorian communities that rely on them for their health, safety, income and livelihoods. Recent studies confirmed an increasing shoreline retreat and beach loss over the past decades mainly due to tropical cyclones waves and human disturbances[35][36], contributing to increased damage to infrastructure, buildings and economic activities, in addition to human losses during natural disasters.[36][37] This rise in sea level has also contributed to salinization of the water tables, especially on the eastern side of the islands, which is less watered.[37][38]

A vulnerability study performed in 2018 estimated that, between 1980 and 2017, the losses caused by major natural disasters represented 0.39% of average GDP[38][39]. However, this value might be strongly underestimated due to the scarcity of data. Estimates from the IPCC Sixth Assessment Report, shows that GDP per capita may have declined by 10% to 15% between 1991 and 2010 due to human-caused climate change[39][40].

Projected climate change

Climate projections indicate that these observed changes over the past decades will be further accentuated by 2050[40][41]. The latest data from the Coupled Model Intercomparison Project Phase 6 (CMIP6) shows that for the 2050s under SSP2-4.5[41][42], the multi-model ensemble mean projections show monthly temperature increases between +0.9°C and +1.1°C, while under SSP5-8.5 these range between +1.2°C and +1.4°C compared to the

reference period 1995-2014. Moreover, under both scenarios, the number of days with heat index above 35°C is projected to rise, particularly during the warmest months of the wet season from January to May[42][43].

Furthermore, under the scenario SSP2-4.5, there is a projected increase in monthly precipitation at country level from January (+1%) to May (+7%) and a decrease for the rest of the year (between -8% in June to -18% in November). The same trend is projected under the scenario SSP5-8.5, with a stronger increase in January (+8%) and a higher decrease ranging from -5% in May to -29% in October.

Given the high probability of cyclone intensification and erratic regional cyclone routes, Comoros is expected to be affected more often by extreme events in the future, despite being, for the most part, shielded by the presence of Madagascar to the East. The expected frequency of damaging tropical cyclone winds in Comoros is classified as high which means that there is more than a 20% chance of potentially-damaging wind speeds in the next 10 years[43][44].

Finally, by 2050 the projected sea level rise under the scenarios RCP4.5 and RCP8.5 indicates an increase of sea-level of respectively +27cm and +28cm. The sea level should therefore increase by more than +4mm/year within the next 50 years which is twice as much as the rise observed over the last 100 years[44][45]. This is expected to exacerbate storm surges, coastal flooding, and erosion[45][46].

Climate Change Impacts

Ecosystems and biodiversity

Comorian marine and coastal ecosystems that are critical for coastal protection from climate hazards, including mangroves, coral reefs, and seagrass beds, are also expected to be adversely impacted by climate change.

Mangrove dieback

Comoros' remaining mangroves will be negatively impacted by sea level rise; more frequent storm surges; floods and droughts; and decreased salinity during high intensity rainfall events. This is likely to be further compounded by increased sedimentation from degraded upper watersheds[46][47] or pest infestations[47][48], potentially causing massive mangrove dieback.

Mass coral bleaching and mortality

As already observed in recent decades in part of Comoros and like many sites in the western Indian Ocean, coral bleaching and mortality will become more frequent with the projected increasing ocean temperature, marine heatwaves, and ocean acidification[48][49]. The accelerating timing of coral bleaching events is likely to decrease their natural ability to recover and regenerate between each of these events which could in the long

run lead to mass mortality[49][50]. The high variability in both reef condition and vulnerability across reefs in the Comoros Archipelago lends itself to spatially explicit conservation actions[50][51].

Coastline retreat

Coastline retreat in Comoros is associated with both natural and anthropogenic processes such as sand mining. For instance, between 1990 and 2020, the coastline position of Grande Comore Island has been retrograding and reducing habitable areas due to severe erosion, with change rates in, Mbachile, Chindini, Hantsindzi, and Ndroude, of more than − 1 m/year, while low stability is noticed on five shores, Foumboudzivouni, Male, Moindzaza-Amboini, Ikoni, and Bangoi-kouni, with change rates of − 1 to 0 m/year. Marshes and coastal greening mitigate the shoreline retreat and enhance coastal stability.[51][52] With climate change, Comoros could face extensive erosion by the end of the 21st century (>80% of their sandy coastline) [52][53]

Species shift in fisheries

By altering the physical and chemical properties of the marine environment, climate change will directly affect marine ecosystems functioning. Already, there have been observations of strong decreases in net primary productivity in the Western Indian Ocean (WIO)[53][54]. For example, tuna stocks have been found to be particularly sensitive to high sea surface temperature events and wind stress anomalies. Coastal demersal fish and invertebrates are also adversely affected by those increasing temperatures, and up to 62% of fish species were found to have declined in abundance after a loss of more than 10% in coral cover[54][55].

Livelihoods and economic assets

Sea level rise (SLR) combined with extreme weather events will particularly affect low-lying coastal areas and mangroves, as well as small-scale coastal fisheries in Comoros. It has been estimated that SLR will flood hundreds of hectares of low-lying coastal areas on the islands which will have direct impact on people employed in capture fisheries[55][56]. Similarly, coral bleaching and mortality related to diminished biomass production and diversity will lead to a decrease in landing which is also likely to result in a chronic market deficit of fish and increased difficulty to access to it, especially for the most destitute populations.[56][57] These combined elements are likely to erode food security and decrease fisheries household incomes.

Agriculture

The clearing of natural forests surrounding watersheds combined with the variable weather patterns has led to continuous erosion of agricultural watershed, resulting in the loss of soil fertility[57][58]. The majority of farmers have already observed a decline in fertility and yields over the past decade, as a result of more frequent droughts

and increased soil erosion, which is being exacerbated by the increase in intense rainfall events.[58][59] In addition, research shows that further change in climatic conditions will disrupt farming calendars and could lead to the emergence of new plant diseases, resulting in lower production and incomes and further increased food insecurity.[59][60]On top of that, SLR is expected to cause a loss of numerous hectares of agricultural land and a displacement of around 10% of the population across the entire archipelago by 2050[60][61] which is likely to further accentuate pressures on the remaining arable lands.

Tourism

The destruction of coral reefs and seagrass beds is likely to have significant adverse impacts on touristic development in Comoros coastal areas[61][62]. Similarly, the extensive projected loss of coastline (in particular sandy beaches) caused by extensive erosion associated with climate change, will adversely affect tourism development[62][63].

Water availability

Climate change also reduces access to drinking water for people dependent on coastal groundwater. All access wells to Comoros' drinking groundwater are located on the coast and most of them are affected by high permanent salinity. The increase in temperature, SLR, the prolonged dry periods and the overexploitation of the water table lead to a risk of diminishing water reserves on the three islands. Inland, deforestation also reduced riverbank's ability to absorb and retain rainwater. In this respect, it has been reported that half of the country's permanent rivers stopped flowing in the dry season[63][64] leading to deterioration in water quality, supply difficulties and a reduction in hydropower potential[64][65]. Deteriorating water quality and climate change are leading to a risk of an increase in diarrheal, infectious and parasitic diseases, which are among the main causes of child mortality.

Infrastructure

Given these elements, the Comoran coastal environment is particularly at risk from storm surge, flooding, and sea level rise. According to the information available, the expected frequency of flood damage in Comoros is classified as high which means that potentially damaging waves are expected to flood the coast at least once in the next 10 years[65][66]. Therefore, Comoros is likely to experience direct losses from flooding reaching US$2 million on average per year. This amounts to nearly 35% of the country's direct total annual losses from the combination of earthquakes, floods, and tropical cyclones[66][67]. Anjouan is the most at risk for flood loss (estimated around $1.3M/year).

In this context, without any intervention, natural assets will continue to disappear as ecosystems will be diminished in their ability product biomass and sustain biodiversity. In addition, climate change and

anthropogenic threats will reduce coastal ecosystems' capacities to deliver critical ecosystems services including mitigating the impacts of climate change.

Root causes of climate vulnerability

Contributing to the climate vulnerability of coastal communities of the Comoros are:

Demographic growth. In 60 years, the Comoros' population has more than quadrupled, growing to approximately 822,000 in 2021[67][68] with 53% of the population under 20 years of age[68][69]. During the last two decades, along with a stable population annual growth rate, population grew and resulted in i) heterogenous population density between islands; and ii) rampant urbanization of coastal zones leading to increased pressure on coastal and marine natural resources and biodiversity[69][70].

Poverty. Nearly one-fourth of the Comoros population is extremely poor, one-fourth of Comoros' population lives just below the national poverty line, and 10% of the population risks falling below the national poverty line in the event of unexpected economic shocks[70][71]. Against the backdrop of low education level and poor job prospects compounded by the absence of a reliable social protection system[71][72], Comorians remain highly reliant on ecosystems for their livelihoods. Agriculture and fishing are the priority income generating activities for most Comorians which is problematic as i) their development further accentuates pressures on natural ecosystems; ii) these activities are sensitive to climate variations and may be severely impacted by current and future climate change.

In this context, coastal communities of Comoros are highly vulnerable to climate change due to i) their high dependance on climate-sensitive and threatened ecosystems that are ironically critical for climate change mitigation and adaptation; ii) their low adaptative capacities due to poor management of natural resources; iii) the limited availability of economic opportunities; and iv) the lack of social safety nets and the high level of poverty.

Project Objective

To help address this problem, the project's Main Objective it to ***"Reduce the vulnerability of Comorian coastal zone communities by restoring, protecting and sustainably managing coastal ecosystems that provide protective, regulating, and productive ecosystem services".***

Project sites

The project is proposed to be implemented in 3 sites on the island of Ngazidja, 2 sites on the island of Anjouan and 1 site on the island of Mohéli. These 6 sites comprise of 14 municipalities or villages grouped in 9 Communes, which are themselves in 7 Prefectures. The total population in these areas is 86,847 people, who all stand to benefit directly from project interventions. Annex C presents the project locations with detailed baselines, including presenting socio-economic and biophysical characteristics, and proposed project interventions. These are summarized in the Table below:

Table 1 Overview of proposed project sites

Site	Climate Impact Drivers	Potential climate change impacts	Non-climate drivers to be addressed
Site 1 : North of Ngazidja (within the Mitsamiouli-Ndroude Park)	Risk of marine submersion and marine intrusions from sea level rise (SLR); coastal flooding; and coastal erosion; marine heatwave; ocean acidity	Coastal ecosystems affected: Alteration of growth rates and physiological functions of seagrass beds; mangroves dieback, coral bleaching Blue economy activities impacted: Reef fishing, fishing on foot, eco-tourism	• Sand extraction activities from coastal beaches for construction which is accelerating the retreat of the coastline • Pollution from unmanaged human waste management from settlements blocking surface waters and affecting near shore reefs • Deforestation and land use change in watersheds reducing vegetative cover and contributing to soil erosion and sediment discharge at the near shore • Unsustainable fishing practices (dynamite fishing, use of poison and gillnets) • •
Site 2 : South of Ngazidja within the Parc du Coelacanthe	Marine submersion from SLR; Tropical cyclone and storm surges and swells; coastal erosion; marine heatwave; ocean acidity	Coastal ecosystems affected: Mangroves dieback, coral bleaching Blue economy activities impacted: Fishing	
Site 3 : Iconi-Mbachile	Rising sea level; marine heatwave; ocean acidity	Coastal ecosystems affected: Coral bleaching Blue economy activities impacted: Fishing	
Site 4 : Conurbation of Mutsamudu	Marine submersion from SLR; tropical storms and storm surges and swells; coastal flooding; marine heatwave; ocean acidity	Coastal ecosystems affected: Coral bleaching Blue economy activities impacted: Maritime transportation; fishing	
Site 5 : Bimbini	Flooding during intense rainfall events; marine intrusions up to 60 meters inland associated with SLR; marine heatwave; ocean acidity	Coastal ecosystems affected: Reef and seagrass beds are vulnerable to direct (bleaching, storm swells) and indirect impacts (siltation through increased erosion) Blue economy activities impacted: Eco-tourism, Fishing	
Site 6 : Fomboni-Djoiezi	Tropical storm and surges and swells; coastal flooding; drought marine heatwave; ocean acidity	Coastal ecosystems affected: Coral bleaching in fringing reef Blue economy activities impacted: Fishing, maritime transportation	

Alignment with national priorities

To address the impacts of climate change, including underlying drivers of climate change, the Comoros has developed a range of strategies and plans which identify national priorities for actions which are compatible with adaptation in coastal zones. First and foremost the National action plan on climate change (2015), call for adaptation to be integrated into land-use planning; awareness-raising and dissemination of climate change knowledge; the promotion of sustainable fishing practices; the promotion of alternative materials for construction. The revised National Determined Contribution (NDC) (2022) calls for two main adaptation priorities in coastal zones: i) Monitoring and restoration of marine and coastal ecosystems; and ii) Awareness and security of fishermen against climate hazards. Also noteworthy is the National Integrated Coastal Zone Management (ICZM) Strategy and Plan (2010) establishes as priorities to : "establish the mapping of degraded coastlines; Elaborate and implement an anti-erosion development plan ; Reinvigorate the validation and monitoring structure for impact studies ; Complementing existing legislation and improving its dissemination; Formalize through legal instruments (agreements, charters, conventions, etc.) the involvement of local communities in ICZM actions; and create an environmental police force " which are all actions compatible with an EbA approach in coastal zones.

The preservation of coastal ecosystems is also a major strategic priority for the Union of the Comoros, as reflected by its engagement in the Nairobi Convention, -_ signed by Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, Tanzania and the Republic of South Africa — and which provides a platform for governments, civil society, and the private sector to work together for the sustainable management and use of the marine and coastal environment.

The proposed project is aligned with the United Nations Sustainable Development Cooperation Framework for the Comoros (2022-2026) and in particular Outcome 1. "By 2026, state and non-state actors and the Comorian population, especially the most vulnerable, build resilience to climate change, natural disasters, and crises and ensure sustainable and integrated management of terrestrial and marine ecosystems and associated ecosystem goods and services, in a context of promoting sustainable habitat with a small environmental footprint." To support the UNSDCF 2022 – 2026, the UN Country Team, of which UNEP, as a non-resident agency, is member of, has identified the need for "strengthening ecological resilience and sustainable and integrated management of terrestrial and ~~and~~ marine ecosystems and associated ecosystem goods and services ecosystem goods and services in a context of land use planning and promotion of sustainable habitats".

The Union of the Comoros is seeking to make its still-preserved coastal sites a force of attraction for international tourism, which is currently very limited. The development of hotels and services based on ecotourism is therefore a key component of the Emerging Comoros 2030 Plan (PCE), and a cornerstone of the vision for a sustainable blue economy. A study conducted in 1998 estimated, for example, the economic value of coral reef tourism services in the Moheli National Park area alone at 1.3% of GDP, 15.2% of public investment and 10.7% of exports of goods and services. Moreover, the PCE 2030 has identified sectorial projects included such as: "ICZM including the search for alternative materials to the use of marine aggregates in construction; and support or artisanal fishing including technical trainings and support to the local fishermen, and support to the creation of value chains.

Barriers

Despite the identification of adaptation priorities in plans and strategies over the course of the past 15+ years, starting with the 2006 NAPA, and a number of investments in enhancing climate resilience and restoring critical ecosystems across the country, there remain a number of barriers to the effective planning and implementation of adaptation actions to yield transformational change.

Barrier 1: Limited capacity for adaptation planning and prioritization of actions at national and local levels

Current coastal management governance systems lack capacities to plan for and prioritize climate change adaptation at both national and decentralized level. To date, efforts to plan adaptation and integrate climate change issues into sectoral policies have been undertaken mainly at national level of public decision-making (e.g. ANCAR I and II projects). However, efforts to improve coastal management have to be maintained: for example a National ICZM Strategy and Plan exists, but needs to be updated as it is not integrating up-to-date climate change adaptation considerations. In parallel, the governorate (island level), the prefecture (grouping of communes/municipalities) and the municipality or commune (grouping of several villages) are equally relevant levels of public action, and require support for strengthening participatory adaptation planning processes. In this perspective, the National ICZM Strategy and Plan has to be downscaled to the local level to strengthen a decentralized integrated and adaptive planning of coastal zones. Furthermore, island development plans are not integrating EbA due to the scarcity of a convincing economic case. Local authorities are thus not sufficiently aware of EbA-related opportunities. Furthermore, local authorities have limited capacities on coordination and decision-making frameworks for adaptive and integrated co-management of coastal zones. Therefore, they need to be trained both for local adaptation planning implementation but also for EbA impacts monitoring through participatory approaches. Drawing on the experience of the project "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods (GEFID 5694)", consultations mechanisms will be implemented in order to achieve better representation of all stakeholders and thus greater legitimacy of the decisions adopted and formalized through these plans.

Barrier 2: Limited access to information on the climate vulnerabilities of critical ecosystems to help inform adaptation decision-making

Planning for Ecosystem-based Adaptation approaches relies on a good understanding of the underlying climate risks and their impacts on local communities and ecosystems. However, to date, information on the climate vulnerabilities of the Comoros' critical ecosystems are scarce. Furthermore, when baseline diagnoses have been performed (such preliminary studies are planned or ongoing through the GCF EBA IO project on 1) wetlands, mangroves, coral reefs and seagrass beds, watershed forests; 2) climate-resilient agroforestry; 3) and traditional and indigenous knowledge and natural resources management practices for example) the subsequent monitoring of different indicators of ecosystem health remains a challenge as monitoring plans are rare and insufficiently implemented. Therefore, continuously updated and accessible information about ecosystems' evolution through time, including after extreme weather events, are lacking to help inform adaptation decision-making.

Barrier 3: Limited capacity and resources (human, technical, inputs) to implement EbA approaches at the local level

Despite being more and more aware and impacted by climate change, local communities lack knowledge about i) adaptation strategies that are relevant to their environment and ii) how to implement them. In particular, while coastal defense works have been spontaneously built by coastal inhabitants in attempts to halt coastline retreat[72][73], these grey infrastructures are poorly dimensioned and their impacts on upstream and downstream sedimentary dynamics are not assessed and monitored which could lead to increased erosion problem. Conversely, knowledge regarding EbA options is limited, and coastal communities have few resources to effectively integrate climate change concerns into the interventions they support. Multiple GEF initiatives have tackled the issue of environmental degradation in the Comoros, they do not directly address the impacts of climate change on coastal zones[73][74]. Other projects focusing on adaptation in the Comoros are also largely focused on securing water supplies, agriculture, and urban resilience[74][75]. This being said, newer initiatives such

as the "Resilience of the Coastal Zone in the Indian Ocean (RECOS)" project aims to strengthen the governance of coastal and marine ecosystems and to implement innovative, varied and replicable projects for the restoration and sustainable use of coastal and marine ecosystems. Similarly, the "Ecosystem-based Adaptation in the Indian Ocean (EBA IO)" Project aims to reduce the vulnerability of the communities by conserving the essential ecosystem services they need to adapt to the impacts of climate change, with nearly 90% of the funding will be dedicated to the establishment of an Ecosystem-based Adaptation Fund, accessible only to civil society organizations seeking to implement actions to preserve and restore ecosystems.

Barrier 4: Limited access to quality business advisory and financial services to develop sustainable and climate-resilient micro, small and medium enterprises (MSMEs)

The development of sustainable and climate-resilient MSMEs has significant potential in the Comoros, in particular in consideration of the fact that large swaths of the coastal population relies on poorly diversified sources of incomes with limited value addition of fisheries products. MSMEs which work in the EbA space have limited access to financial services that would enable them to acquire transformation equipment that could bring value addition and increase the resilience of the fisheries value chain in particular, and contribute to limiting access to markets. Domestic economies are characterized by low saving rates while relying for most Comorians on regular money transfer from the diaspora, which represented 13% of the national GDP in 2017[75][76]. While microfinance structures are in place locally, there is a need to raise awareness of financial institutions to improve financial products available and change perceptions regarding EbA-related businesses supported by local communities which are perceived as risky investments. At this time, financial services available in coastal zones are not adequately tailored to the needs of fishers, including not adequately accounting for the seasonality of fisheries. Moreover, there is limited access to business incubation/advisory services in coastal areas, compounding the barriers facing climate-resilient MSMEs.

Barrier 5: Limited awareness of the negative environmental and socio-economic impacts of unsustainable exploitation and use of ecosystems

Coastal communities, through the adoption of poor natural resources management and exploitation practices, have tremendously negative impacts on their direct environment. For instance, sand mining for construction purposes has been responsible for massive erosion leading to the withdrawal of dozens of meters of beaches over the last two decades. Similarly, the ecological role of mangroves and coral reefs might be underestimated by local populations as they continue to be degraded through deforestation or unsustainable fishing practices. In fact, without adequate environmental awareness, people are unable to see the links between their day-to-day activities and impacts on the environment. There might also be limited knowledge on the environmental value of maintained and healthy ecosystems and little understanding of how environmental degradation and unsustainable livelihoods practices will in turn negatively impact individual household incomes, and contribute to vulnerability in light of climate change.

Cost effectiveness of the EbA approach

According to the IPCC AR6 WGII (2022), nature-based solutions including EbA can be cost-effective and generate social, economic, and cultural co-benefits while contributing to the conservation of marine biodiversity and reducing cumulative anthropogenic drivers (high confidence). However, it has to be acknowledged that conservation and restoration alone will be insufficient to protect coral reefs beyond 2030 (high confidence) and to protect mangroves beyond the 2040s (high confidence). Integrated approaches that identify trade-offs and synergies across sectors and scales in space and time to build resilience of ocean and coastal ecosystems and the services they deliver will be necessary (high confidence).

In this context, and to fill current gaps to address national adaptation priorities in this busy adaptation investment landscape, this EbA project proposes to adopt an integrated approach to climate change adaptation (CCA) which will support institutions to reduce current barriers to climate adaptation in cultural, financial, and governance sectors. In addition, it will support the adoption of more sustainable ecosystems management practices and work towards the restoration of critical ecosystems, while acknowledging the limitations of conservation and restoration efforts alone. For this purpose, the proposed approach will combine four Components: 1. Enabling environment for EbA implementation in coastal zones; 2. Restoration and improved management of coastal ecosystems for climate resilience; 3. Fostering Participation in the Blue Economy; and 4. Monitoring, Evaluation, and Learning.

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B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

The proposed project aims to reduce the vulnerability of Comorian coastal zone communities by restoring, protecting and sustainably managing coastal ecosystems that provide protective, regulating, and productive ecosystem services. It builds on the lessons learned[1][77] of the previous LDCF projects – GEF ID 3857 UNDP & UNEP "Adapting water resource management in the Comoros to expected climate change" and GEF ID 5694 UNEP "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods", in particular the successful participatory process of involvement of beneficiary communities from the beginning of the project design and its implementation. By concentrating on specific coastal zones and targeting specific adaptation results, the proposal project's focus will reduce the risk of investments being spread too thinly. It also aims to strengthen the project's monitoring, reporting and learning results through inclusion in the design and allocation of budget resources.

Theory of Change

The project's Theory of Change (ToC) describes, through Transformation Pathways, the relationships between Outputs and Outcomes (i.e. Sphere of Control of the project) ; and identifies project contributions towards Medium-Term Outcomes and the Long-Term Impacts (Sphere of Influence ; Global Environmental and Adaptation Benefits). From Outputs to Outcomes, the Transformation Pathways then lead to Medium-Term Outcomes, and ultimately make contributions to the Long-term Impact (beyond the control of the project, but which contribute to the global objective). Medium-Term Outcomes are transformational and defined as changes in behavior, attitude, or decision-making of the beneficiaries, while project-level Outcomes refer to specific changes in capacity, knowledge, resources, skills, and abilities. Project Outputs are designed to address underlying barriers to scaling up adaptation action in the Comoros (c.f. Section A. Project Rationale). Long-term impacts will require additional contributions from other initiatives for their full achievement, hence the need for coordinated and complementary adaptation action.

The ToC is premised on the fact that healthy coastal ecosystems can provide valuable protective, regulating and productive ecosystem services that can reinforce local climate resilience and reduce the vulnerability of communities who rely on them. However, restoring and maintaining ecosystem health requires the reduction or removal of pressures that exacerbate ecosystem fragility and undermine their ability to recover from climate shocks.

To help lower the barriers to adaptation and achieve the main objective, the project will implement a mix of interventions that will target identified vulnerable coastal ecosystems and the settlements that are directly

dependent on them. The project objective (Sphere of Control) will be achieved through five (5) interlinked outcomes defined below:

- **OUTCOME 1.1:** Capacity for gender sensitive adaptation planning at national and local levels is strengthened
- **OUTCOME 1.2**: Capacity for local implementation, monitoring, and enforcement of ecosystem-based adaptation efforts is strengthened.
- **OUTCOME 2.1:** Communities have enhanced technical skills and resources to manage 2,500 ha of coastal and marine areas and 1,500ha of land for climate resilience.
- **OUTCOME 3.1:** Enhanced access to business services for climate-resilient micro, small and medium enterprises (MSMEs).
- **OUTCOME 4.1:** Increased awareness of good EbA practices and dissemination of lessons learned for scaling up results.

Subsequently, through both the project and other initiatives, Medium-Term Outcomes could be achieved (project Sphere of Influence). These Medium-Term Outcomes are defined as:

- **MTO1:** The enabling environment for scaling up EbA is in place and effectively supports the Comoros' National Adaptation Plan (NAP)/NDC implementation.
- **MTO2:** Adaptation decision-making for coastal zones integrates up-to-date data at different scales.
- **MTO3:** Widespread behavioral change occurs at a national scale in favor of adoption of sustainable/climate-resilient management of the coastal zone
- **MTO4:** Entrepreneurs, including women and youth, actively engage in the blue economy.
- **MTO 5:** Self-sustained incubation services for climate resilient MSMEs

Transformation Pathways and Alignment with LDCF 2022-2026 Strategy Levers of Transformation

Within the framework of this project, transformational adaptation will be supported through the targeting of the establishment of enabling conditions that allow to overcome systemic barriers to adaptation in Comoros. To this end, according to both the latest IPCC Working Group II report and the LDCF and SCCF 2022-2026 Programming Strategy, this project will rely on three key transformation levers: (1) policy coherence and mainstreaming of climate adaptation, (2) strengthened governance for adaptation, and (3) knowledge exchange and collaboration.

Under the Output 1.1.1, the project strategy aims at performing a policy review towards more coherence within national ICZM strategy and plan, ensuring that all documents are updated and integrate national adaptation priorities (NDC, NAP) and gender considerations. Similarly, the mainstreaming of adaptation and climate resilience in subnational policies will be supported, in Output 1.1.2, by the development of local integrated adaptation plans for the management and development of the coastal zone (PLAGIZC).

The project will contribute to the lever Strengthened governance for adaptation by supporting the inclusive and sustainable co-management of marine and coastal resources in the intervention areas under the Outcome 1.2,

including the set-up of the responsible co-management bodies; the development of climate vulnerability assessments that inform strategic decisions regarding national and local planification processes; the empowerment of local authorities in implementing environmental laws in relation to EbA efforts in coastal zones; and the establishment of a participatory system that allow local communities to monitor relevant ecological indicators of adaptation impacts.

The Output 4.1.4 of the project has been designed to contribute to the lever Knowledge exchange and collaboration as a strong communication and awareness strategy on good EbA practices will be developed to enable the scaling up and/or replication of the success stories which lessons will be capitalized during the project implementation.

More specifically, the ToC for this proposed project can be expressed through seven (7) Transformation Pathways, summarized as follow :

Pathway 1 : By conducting policy reviews and mainstreaming CCA concerns, the project contributes to a harmonized policy environment, which can lead to the mobilization of additional adaptation finance, and scaling of adaptation action (LDCF Transformation Lever 1)

Pathway 2 : By capacitating actors to plan for and coordinate implementation of gender sensitive EbA actions, the project contributes to creating an enabling environment that can support NAP implementation and scaling of adaptation action (LDCF Transformation Lever 2)

Pathway 3 : By capacitating actors to monitor results from EbA actions, the project contributes to the generation of new knowledge on ecosystems, which enables evidence-based adaptation decision-making processes across scales and sectors, and can help leverage additional adaptation finance for coastal zones (LDCF Transformation Lever 3)

Pathway 4 : By transferring the management of coastal and marine resources to local communities, while simultaneously building capacity for environmental law enforcement, the project builds ownership of the sustainable management of ecosystems, which in turns contributes to behavioral change towards sustained protection of key ecosystems providing adaptation benefits, and ultimately helps secure livelihoods and protect lives in coastal zones (LDCF Transformation Lever 2)

Pathway 5 : By supporting a participatory approach to restoration, the project builds ownership and helps demonstrate the cost-benefits of EbA, which contributes to behavioral change towards sustained protection of key ecosystems providing adaptation benefits, and ultimately helps secure livelihoods and protect lives in coastal zones (LDCF Transformation Levers 2, 3, and whole-of-society approach)

Pathway 6 : By capacitating a network of business coaches and incubators, and raising awareness within the banking sector of the needs of local fisher communities, the project supports the development of a viable investment ecosystem, which in turn creates increased demand for incubation services leading to self-sustained provision of services for ecosystem-based climate-resilient MSMEs (LDCF Transformation Lever 3)

Pathway 7: Awareness raising activities as they relate to sustainable and climate-smart management of ecosystems foster behavioral change of local populations, increase adoption of good practices, and ultimately lead to an increased resilience to climate hazards in coastal zones (LDCF Transformation Lever 3)

Assumptions/risks underlying the project ToC

The ToC makes the following assumptions as conditions to the achievement of outcomes from the outputs, and the achievement of longer-term outcomes.

Table 2: Assumptions/risks of the ToC

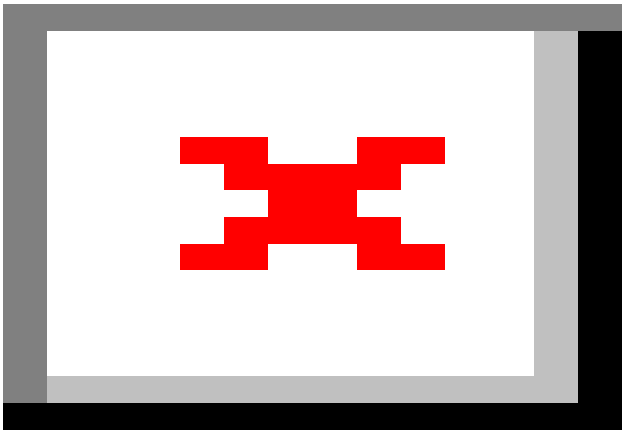
A1. Implementation partners are active, willing, and able to take the lead in project implementation.
A2. Communities are willing and able to partake in the project activities.
A3. Successful pilots of EbA approaches help demonstrate the business case for EbA adoption, investments, and ultimately increase adaptation finance.
A4. Socio-economic circumstances including societally enforced gender roles, access to finance, networks and information and time poverty of women are limiting their ability to invest and scale viable businesses.[2][78]
A5. Climate-resilient business initiatives developed respond to local, national and global markets needs
A6. Restoration efforts are not threatened/undermined by local conflicts or climate change impacts (e.g. tropical storms), and are supported by significant local buy-in from all local actors through the community-based approach.

There are also a number of key external outcome enablers as follow:

Table 3: Enablers of the ToC

E1. Adherence to international legal obligations, including UNFCCC, SDGs, UNCCD, CBD.
E2. Adequate infrastructure, including transportation, water, and energy access are present to support MSMEs.
E3. Microfinance institutions are present locally and sufficiently capitalized
E4. Local, regional, and global demand for products from sustainable and climate-resilient sources

Figure 1 Proposed Project's Theory of Change



Component 1: Enabling environment for EbA implementation in coastal zones

A lasting change in governance systems is necessary if coastal ecosystems are to be managed in a way that maximizes their value in terms of resilience. However, as noted earlier, there are currently significant gaps in the coastal management capacity and governance systems in Comoros, notably the absence of coastal land use plans at any level, and gaps or inconsistencies in the legal apparatus, institutional coordination and enforcement capacity governing natural resource use and urbanization in coastal areas. The project will therefore work with authorities at national, regional and communal levels to address these gaps, using a bottom-up approach, and will ensure to effectively engage vulnerable groups such as women and youth. This will be achieved through introduction of integrated and adaptive coastal zone management planning at municipal (commune) level, and the strengthening of institutional, technical capacity for management and enforcement of coastal management. Efforts to plan adaptation and integrate climate change adaptation issues into sectoral policies have so far been undertaken mainly at the national level of public decision-making. The governorate (island level), the prefecture (grouping of communes/municipalities) and the municipality or commune (grouping of several villages) are, however, equally relevant levels of public action and, closer to the population, for strengthening the territory's adaptation to climate change. However, vertical devolution is a relatively recent phenomenon in the Comoros and efforts must be made to consolidate these local institutions.

Outcome 1.1: Capacity for gender sensitive adaptation planning at national and local levels is strengthened

Proposed indicator: Degree to which capacity to plan for adaptation of national and local stakeholders is strengthened.

A lasting change in governance systems is necessary if ecosystems are to be managed in a way that maximizes their value in terms of resilience. However, there are currently significant gaps in the coastal management governance systems in Comoros, which acts as a key barrier to adaptation planning. To fill the gaps identified and address this first barrier, this LDCF proposes the following Outputs:

Output 1.1.1 A policy coherence review is conducted and supports the mainstreaming of national adaptation priorities (NDC, NAP) and gender considerations in key policies and plans

Under this Output, the project proposes to conduct a policy coherence review to ensure alignment with most recent adaptation priorities. This would include the update of the 2010 National ICZM plan with the latest information on climate change adaptation needs for the Comoros, in alignment with the NDC (2022) and NAP (under preparation). This will provide a much-needed coherent national framework for adaptation planning and prioritization of actions in coastal zones. This activity will also be undertaken in close collaboration with the Nairobi Convention secretariat which is supporting the Union of the Comoros in strengthening sectoral policy and co-management mechanisms for better conservation of marine and coastal ecosystems.

Indicative activities:

- Coherence review of relevant policies and identification of entry point for revisions
- Participatory process for the revisions/updates of relevant policies and plans towards mainstreaming of CCA and gender considerations

Output 1.1.2 Nine (9) local plans for integrated and gender sensitive management and development of the coastal zone (PLAGIZC) are developed and integrate climate risks (outside of Protected Areas)

With the support of local partners, and through the facilitation of island-level Environment directorates, a local participatory plan for integrated and adaptive coastal zone management and development (PLAGIZC) will be developed in each Commune, and adaptation actions co-designed. The plans will build on the revised National Strategy for Integrated Coastal Zone Management in terms of area specific adaptation measures, and will serve as a mechanism to implement the forthcoming National Adaptation Plan (NAP, 2023-). The PLAGIZC will therefore provide a framework for a coherent and coordinated approach to local planning and implementing effective and cost-efficient adaptation measures in the coastal zone.

These plans will include:

- Findings and recommendations from available downscaled scenarios and the climate change risk and vulnerability assessment for the prefecture and commune (see Output 1.2.2)
- An overview of actions already planned and their expected impacts, and of remaining needs and gaps to be addressed
- An assessment of the funds and means of implementation to be mobilized, which will include public sector, private and community funds, expected subsidies, future international climate funding, and resources mobilized by partners such as CSOs through other ongoing EbA activities. This could include, among other things, and inventory and mapping of current and programmed projects, as well as any other expected changes likely to reduce or increase the vulnerability of the areas (including private and community projects).

The process of developing the plans will rely on both access to relevant information (Outputs 1.2.2) and continuous training of key stakeholders. Local public officials, including sectoral officers at island-level directorates, and officials from prefectures, Commune and Municipality administrations will benefit from a continuous training programme on the use of the decision support tools and mapping tools for adaptation planning, as well as techniques for facilitating and mediating territorial consultation processes. Special attention will be given to the effective engagement and participation of women in these activities, to ensure equitable representation.

Indicative activities:

- Participatory development of nine (9) PLAGIZC

Outcome 1.2: Capacity for local implementation, monitoring, and enforcement of ecosystem-based adaptation efforts is strengthened

Proposed indicator: Degree to which capacity to monitor EbA efforts and enforce environmental law of national and local stakeholders is strengthened.

The proposed LDCF project will support the creation of evidence based and participatory coordination and decision-making frameworks for adaptive and integrated co-management of the coastal zone. This will require strengthening the capacity of all local stakeholders, through stronger information, decision-making tools, and governance mechanisms.

Output 1.2.1 Co-management of marine and coastal resources is established in 14 coastal communities

In order to support the sustainable management of the marine environment including through the implementation of EbA in coastal and marine areas, the Comoros has supported the adoption of co-management of marine and coastal resources, which has yielded positive results to date. The project proposes to scale up good practices from prior projects by replicating the approaches developed, including setting up the required governance arrangements; drafting co-management contracts; effective engagement of vulnerable groups such as women and youth; and developing action plans for the sustainable community-level management of marine and coastal resources. It will strengthen the last link in the chain of national efforts to integrate local stakeholders into public decision-making, ensuring both vertical (between scales of action, from the national to the municipal/commune level) and horizontal (multi-sectoral, allowing the interests and concerns of different types of stakeholders, issues and sectors of activity to be taken into account) integration.

This is anticipated to result in communities understanding that management of the area is important; gain clear knowledge who the marine stakeholders are/what are their roles and responsibilities; enable good fisheries management practices such as the delineation areas for fisheries and the establishment of open and closed fishing seasons; and more. In addition, the project proposes to extend support to communities where co-management contracts already exist, towards the implementation of their action plans.

The project will carry out risk and vulnerability assessments in each project site in order to pinpoint the areas of high vulnerability of populations and their livelihoods (including gender differentiated vulnerabilities), assets and economic activities to climate risk. The assessments will be informed by the use of the high-definition aerial photography library taken as part of the Global Climate Change Alliance (GCCA) project which will enable the cross-referencing of altimetry and building distribution data in order to identify the fine-scale exposure of coastal zone populations and activities in the short (2030), medium (2050) and long term (2100). Demographic projections and analysis of available land resources will also be carried out to identify coastal conurbations likely to experience population growth in areas at risk of major flooding. Based on these data, participatory risk and vulnerability assessments will be conducted with local communities and key stakeholders and identify high climate risk areas according to parameters linked to emission scenarios, the state of conservation of coastal ecosystems and the pressures related to the extraction of sand resources. These risks and vulnerability assessments will be produced using a basic, easy-to-use mapping tool that can be later updated with new data, which will enable the production of cartographic syntheses of the risks which will be used during information and awareness raising campaigns for the general public.

To complement other ongoing studies, the project will also conduct a vulnerability assessment for coral reefs at national scale. This will be used to determine restoration potential and select the most locally appropriate reef rehabilitation or restoration approach taking into account local capacity, cost effectiveness and the existing state of reef degradation.

Indicative activities:

- Support for the establishment of co-management agreements in 14 communities
- Nine (9) local climate risk and vulnerability assessments at project sites
- One (1) national level climate vulnerability assessment of coral reefs produced

Output 1.2.2 Support for the enforcement of environmental law in relation to EbA efforts in coastal zones for 1,450 municipal employees (750 men, 700 women), traditional and religious authorities, customary law officials

In order to create lasting conditions for coastal resilience, local stakeholders must be empowered to enforce agreed policies and plans. The island-level planning directorates (*Directions Régionales de l'Aménagement*) will verify the compliance with the regulations and policies set out in the island-level land-use plans. They will be provided with capacity building support and material resources to enable them to carry out field missions to obtain information, undertaking monitoring and reporting on non-compliance with the regulations set within the framework of the island-level regulation. They will work in close collaboration with the local authorities in charge of implementing these schemes, who will benefit from a continuous capacity building programme on key principles of integrated and adaptive coastal zone management as well as advanced notions of Comorian environmental law. In particular, they will ensure compliance with regulatory procedures, and notably the implementation of impact assessments required by the law before any development on the coastal zone that could have a negative impact on ecosystems and communities.

They will draw up an annual report to be sent jointly to the Ministry of the Agriculture, Fisheries, Environment, Tourism and Handicrafts and the Ministry of Land Use Planning in order to report on their actions and to point out areas where significant shortcomings are found.

Indicative activities:

- Awareness raising campaign on environmental law relating to EbA
- Capacity-building programme for key actors at national and community levels
- Material resources to support monitoring in the field

Output 1.2.3. Participatory system set up to monitor at least six (6) ecological indicators of adaptation impacts

Local public officials, including sectoral officers at island-level directorates, and officials from prefectures, Commune and Municipality administrations will benefit from a continuous capacity building programme[3]79 on monitoring and evaluation of the adaptation of a coastal territory to climate change (indicators, data collection, monitoring methodology). In further support to the enforcement capacity of communal and prefecture authorities, and to feed into the PLAGIZC as well as to increase awareness among coastal communities, the project will partner with local environmental NGOs to support the deployment of a participatory ecological

monitoring initiative. The purpose of this monitoring would be to detect the changes in status of coastal zone resources (e.g. vegetation, erosion, biodiversity) but also to enlist direct observation of the socio-economic benefits of adaptation measures implemented. Monitoring will be undertaken on the basis of a set of indicators and processes to which both Regional Environment Directorates and the local communities will contribute. Indicators could include, for instance: i) Evidence of sea level rise or coastal erosion; ii) Extent of vegetative cover, encroachment; iii) Extent of sand mining or beach degradation; iv) Presence of waste and water quality; v) Fisheries productivity; vi) Presence of certain species (plants, birds, fish); and vii) Information from the various alternative economic activities (yields, catches, income). The project will leverage existing systems and support the upgrades required to effectively serve the intended purpose of this project. The appropriate systems will be explored further at PPG stage, but could include for example the national MRV system for climate or the national fisheries information system.

Indicative activities:

- Capacity needs assessment for ecological indicators monitoring.
- Development of a, or adjustment of existing, monitoring system, including definition of roles and responsibilities of all actors in monitoring and reporting.
- Technical and material support for operationalization of monitoring system

Component 2: Restoration and improved management of coastal ecosystems for climate resilience

This component seeks the implementation of urgent and necessary ecosystem-based adaptation measures that will reduce ecosystem and communities' vulnerability in the short and long term. Activities in this component will take place in the 6 selected priority sites and will be implemented by a locally-based institutions through a partnership with project partners and under the supervision of Directorate for Environment and Forests. Activities under this outcome are supported by the activities under Component 1 that aim at enabling better governance for ecosystem-based resilience and adaptation and Component 3 aimed addressing unsustainable natural resource use exploitation for coastal livelihoods, which contribute to decreased community resilience. For example, priority ecosystem restoration activities will be co-designed with local communities and inscribed in local participatory development plans for adaptation and integrated management of the coastal zone (PLAGIZC) which will be supported under Component 1, with special attention to the needs and ambitions of women and other vulnerable groups.

Outcome 2.1: Communities have enhanced technical skills and resources to manage 2,500 ha of coastal and marine areas and 1,500ha of land for climate resilience

Proposed indicators: (a) Area of land managed for climate resilience (ha); (b) Coastal or marine area managed for climate resilience (ha)

This outcome seeks the implementation of urgent and necessary ecosystem-based adaptation measures that will reduce ecosystem and communities' vulnerability in the short and long term. The outputs are as follows:

Output 2.1.1. Participatory restoration and management of 15ha of mangroves

Mangrove restoration helps with protection against sea level rise, coastal erosion through wave action, storm swells and cyclones, in addition to providing avenues for fisheries to regenerate. Yet, attempts the lack of technical assistance and local consensus did not allow this operation to succeed in previous efforts in Comoros. Through this project, the prioritization of restoration efforts will be supported by the PLAGIZC process, while implementation of actions will be enabled through the co-management arrangements at local level. Local communities need to be sufficiently incentivized towards restoration efforts, including ensuring that terms of exploitation and access rights are clear (in particular for women), which will be taken into account under Output 1.2.1. The project will further provide under this output technical and material support to enable successful restoration efforts, which will be further assessed during the PPG phase.

Indicative activities:

- Participatory development of a restoration plan, with clear roles and responsibilities, selection of targeted areas, as well as sustainable management plan including provisions for access rights
- Participatory implementation of restoration activities

Output 2.1.2 Participatory restoration and management of 3km of coast, of which 1km of degraded beaches and 2km of shoreline

A combination of interventions in the coastal terrestrial zone will be implemented to limit the phenomenon of sedimentary leakage and to conserve or even reinforce the buffer role of the existing beaches in the project sites (notably the beaches of Outsoha to the north of Ouani and Mbachile in Grande Comore) and/or to limit the silting up of ports (in particular Mutsamudu).

The aim will be to limit the impact of sedimentary transfer from upstream watercourses, and to promote the recharging of sites by reprofiling the current obstacles to coastal drift (coastal protection works, port facilities). Reprofiling involves moving sand (usually with mechanised machinery) that has piled up in some parts of the beach and equalizing, either bringing it back down towards the water line, or by reshaping the natural curves around obstacles such as wave breaks, rocky outcrops and piers. This creates a gentler profile in which the beach ensures an optimal protective gradient against wave action. The herbaceous foreshore vegetation plays a significant role in the preservation of the sand stock of Comoros' beaches, and its restoration combined with the reprofiling action, will create an effective buffer against wave and swell action. A creeping plant species, *Ipomoea-pes-caprae brasiliensis* (locally called "pumpu"), colonizing the backshore, helps dissipate the energy of the swell at the top of the foreshore and plays a role in stabilizing this part of the beach against waves and wind. Other, more recessed strata also play a similar role (high foreshore supra-littoral thicket, supra-littoral shrub belt). This vegetation is now fragmented due to anthropic pressures and the generalised retreat of the coastline. In places where it is possible to restore dune vegetation by simple measures (installation of cranks, replanting etc.), interventions will also be envisaged. While it is recognized that beach

reprofiling is an activity that requires periodical repetition, it remains the most cost-effective form of maintenance, and when combined with restoration of natural vegetation, it can provide effective protection against SLR and erosion.

Indicative activities:

- Participatory development of a restoration plan, with clear roles and responsibilities, selection of targeted areas, as well as sustainable management plan
- Participatory implementation of restoration activities

Output 2.1.3 Participatory restoration of 1,500 ha of rural landscape upstream from the coastal zone

The aim will be to limit the impact of sedimentary transfer from upstream watercourses, through restoration of watersheds. This will include watersheds that are known to have a direct impact on the health of the coastal and marine ecosystems targeted for rehabilitation. The purpose of this rehabilitation, which will be mainly conducted through assisted natural regeneration, the implementation of anti-erosive measures such as stone barriers, terracing and natural fencing, as well as targeted reforestation, is to slow down sediment transfer and siltation through improved vegetative cover. This is particularly effective also to prevent downstream flooding during severe rainfall events, and will therefore serve the dual function of reducing flood risk in lower lying coastal settlements. The project will leverage the best practices demonstrated by the Integrated Watershed management project in Comoros (GEF Project ID 5694) and will also leverage the mapping of watersheds conducted by the DGEF to target interventions.

Indicative activities:

- Participatory development of a restoration plan, with clear roles and responsibilities (including for women), selection of targeted areas, as well as sustainable exploitation plan
- Participatory implementation of restoration activities

Output 2.1.4 Technical trainings on sustainable and climate-smart exploitation of land, forest, and fisheries and provision of related materials for 1,000 people (500 men, 500 women)

This Output is directly related to activities under Outcome 2.1 and will serve as a support to the rehabilitation and sustainable management of upper watersheds with coastal connection in the project sites. In this activity, the households who are exploiting the watersheds will be trained in the application of climate smart agriculture and forest management practices, with activities being adapted to the needs of different stakeholder groups, including women. This will include capacity building on the non-erosive land clearing practices (upscaling the lessons of the GEF-Integrated Watershed management EBA project), installation of natural anti-erosion and anti-flooding barriers, and agroforestry practices to maintain soil cover. This will help reduce sediment transfer to lower parts of the watershed. To further reduce pressure on sloped farmland while increasing food availability, the project will reintroduce the practice of household gardening and vegetable production at village level in lower lying areas, with a particular focus on vulnerable groups such as women, elderly or persons living with disabilities.

In addition, the project will explore the development potential of "biosaline" agriculture in coastal areas, based on the cultivation of halophytic plants and their integration into food systems, notably as fodder plants for livestock breeding or organic fertilizer for crops. Other options for sustainable coastal agriculture that will be explored during the PPG phase, including considerations for the potential roles of vulnerable groups such as women, and could include saliculture and aquaculture, including for instance seaweed production.

In order to remove the pressures on reefs and mangroves, the project will work with local fishing communities to support fishing practices that are not destructive and that allow sufficient time for ecosystems and fish species to recover. A first objective will be to take fishing away from reefs (including foot fishing) and mangroves as much as possible, by diversifying fish species catch, training and the provision of suitable fishing materials such as, fishing concentration devices, appropriate nets that limit catches to fish of a certain size, embarkations to limit foot fishing, and processing or conservation equipment. This will be accompanied by training and awareness raising and efforts will be made to ensure that all persons currently practicing unsustainable fishing have a decent economically viable alternative.

Indicative activities:

- Develop training materials for sustainable and climate-smart exploitation activities
- Training of trainers
- Provide ongoing support and training on sustainable and climate-smart exploitation activities
- Provide materials and equipment to foster adoption for good practices

Output 2.1.5 At least one environmentally sustainable and economically viable alternative to sand mining demonstrated

This activity would leverage private sector-oriented approaches to develop alternatives to sand mining in coastal areas. An alternative to sand in concrete, the crushing of volcanic rock is already practiced in various parts of the territory, but its use is far from being generalized, and the levers that could lead to widespread use need to be better identified. Several promising avenues for the use of other mineral resources are also regularly mentioned in the grey literature of development projects but have not been the subject of in-depth studies, notably pozzolanic rocks, which are abundant in the island, and clays.

The project will identify one or more programmed construction initiatives for which funding is already secured, and in order to increase the 'demonstration' effect it will be necessary that the use of alternative construction techniques is focused on buildings of high symbolic value, decided and/or financed directly by the communities, and erected close to sites where resilient economic activities have been established as an alternative livelihood to beach sand extraction. The project will cover the additional costs incurred by the use of innovative materials, additional engineering or architectural designs and tests required, additional training for craftsmen and the communication and promotional expense needed to ensure the visibility of the initiative.

In addition, a technical training program for enterprises and workers in the construction sector (material extraction and production, private contractors in construction and public works) and a capacity building programme for the island's main public contracting authorities and their partners will be deployed, in order to strengthen their understanding of the issues related to the exploitation of natural resources, and of the opportunities for the development of the sector. The project will also work with the Ministry of public works,

MAPE and other relevant government agencies to support the development of regulations limiting the use of sand in construction material.

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Indicative activities:

- Technical study on alternatives to sand mining
- Training program for enterprises and workers implemented as part of pilot through existing construction project
- Support for regulatory changes regarding sand use in construction

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Component 3: Fostering Participation in the Blue Economy

This component aims to address unsustainable natural resource use exploitation for coastal livelihoods, which contributes to decreased community resilience. Specifically, the component will focus on capacitating a network of business coaches and incubators, and raising awareness within the banking sector of the needs of local fisher communities. The project will support the development of a viable investment ecosystem, which in turn creates increased demand for incubation services leading to self-sustained provision of services for ecosystem-based climate-resilient MSMEs

Outcome 3.1: Enhanced access to business services for climate-resilient Micro, Small and Medium Enterprises (MSMEs)

Proposed indicator: Number of private sector enterprises engaged in climate change adaptation and resilience action

This outcome aims for communities to adopt more sustainable modes of exploitation of coastal territories in and around the project sites, while simultaneously improving engagement in the blue economy. The project will pay particular attention to providing opportunities for youth and women, two groups who are particularly susceptible to economic disenfranchisement and will take a business-oriented approach to ensure sustainability of all interventions. The outputs are as follows:

Output 3.1.1 50 MSMEs are incubated/accelerated through the support of business coaches, with a focus on women-led businesses

The project will work along the fisheries value chain to support MSMEs that will contribute to enhancing the climate resilience of coastal communities, with a focus on the steps that are often dominated by women. This

could include, for instance, those businesses that are involved in sustainable production (e.g. improved fishing equipment); post-harvest storage (e.g. solar-powered refrigeration units); or processing and transformation of products (e.g. smoking of fish). The project will support the development of incubators/business advisory services that will provide a range of services to entrepreneurs, including the development of sustainable business plans; support towards commercialization and marketing; and work as a platform to connect more mature businesses to adequate financial services and potential investors. Where relevant, the project may also support market studies to help inform the development of demand-driven sustainable business plans for the targeted ecosystem-based businesses. As part of the sustainability strategy of the project, different models to ensure that the business advisory services are self-sustained will be explored (e.g. fee structure for advisors; training of trainers).

Indicative activities:

- Establish incubators, including developing novel business models for incubators to ensure financial sustainability of advisory services
- Provide incubation/business advisory services to MSMEs (e.g. business plan development; financial literacy)
- Provide material means to develop MSMEs

Output 3.1.2. Small scale financing facilities tailored to the needs of fishers and MSMEs

The project proposes to support small scale financing of the supported 50 MSMEs, through a dual approach. In a first time, the project will work to raise awareness of existing financial institutions of the differentiated needs of actors along the fisheries value chain, including fishers. This is intended to help develop better tailored financial products adapted to local needs (e.g. adapted repayment periods, lower interest rates). The incubators created under 3.1.1 will act as a platform to connect MSMEs with financial institutions, and act to de-risk investments in EbA-linked businesses. Moreover, the project will explore opportunities of partnering with the growing number of funds for adaptation-oriented MSMEs, in particular the Ecosystem-based Adaptation Fund under the GCF EBA IO Project, and the Global Fund for Coral Reefs.

Indicative activities:

- Awareness raising activities targeting financial institutions
- Foster partnerships with existing climate funds and other financial institutions through incubators (investor matchmaking)
- Support development of tailored financial products for fishers and adaptation service providing MSMEs

Component 4: Knowledge Management and Learning

This component will focus on strengthening awareness of local, commune, prefecture, island and national stakeholders on climate change and ecosystem-based adaptation strategies to increase resilience in the short, medium and long term. It will enable local-level monitoring of ecosystem-based adaptation measures and support participatory monitoring of the 9 PLAGIZC and the reporting on their implementation progress and results, and drawing lessons learned for wider dissemination within each island, at national level and to wider audiences. The project, in its approach to knowledge management and learning, will take into account the differentiated needs of men and women, including considerations for lower literacy rates amongst women in the country.

Outcome 4.1: Increased awareness of good EbA practices and dissemination of lessons learned for scaling up results

Proposed indicators: a) Degree to which project beneficiaries report confidence in understanding of the EbA concept/good practices (data to be disaggregated at institutional level and community level, as well as gender disaggregated, in a representative sample of direct project beneficiaries)

b) Number of instances where new or ongoing projects reused or adapted previously captured lessons learnt to design or start a project, program, and/or initiative

The outcome aims to support the establishment and application of a knowledge management and learning framework which engages with stakeholders at community, communes, prefecture, island and national levels in terms of raising awareness and sharing of lessons learned in implementation ecosystem-based adaptation strategies in the Comoros' coastal zones.

Output 4.1.1: Awareness raising on good practices to enable scaling up

The project will develop a strong communication and awareness strategy, which will be implemented across the project's Components. It will cover several critical dimensions, with the aim enabling the broader adoption of EbA and sustainable coastal and marine resources management and to make the case for integrating ecosystem-based adaptation priorities contained in the 9 PLAGIZC into each of the island land use plans and budgets including but not limited to: i) engage with policy makers at all levels (commune, prefecture, island and Union officials) to develop a solid set of arguments for the upscaling of activities and set the stage for broader adoption of project lessons learned, and results; ii) awareness raising and training for policy makers to enable stronger enforcement of laws and regulations; iii) communicate the direct economic benefits of EbA to Comoros (both in terms of gains and averted losses); iv) raise awareness and level of public understanding of the options to increase island resilience and the need to act urgently to redress their degradation; v) awareness campaigns and public education activities to enlist and maintain public participation in the elaboration of PLAGIZCs; vi) awareness campaigns for upstream, communities regarding the impacts of their use of natural resources on downstream ecosystems and communities; vii) public notices and pictorial panels to discourage settlement in flood zones; viii) key messaging for communicating legal frameworks to local populations, including zones where construction is barred by law and any other illegal uses (e.g. sand mining); ix) training and awareness raising for maritime transporters and fishermen on suitable mooring and anchoring practices.

The project will also work with local authorities and traditional leadership (muftis, cadis, etc), including religious leaders, through a "training of trainers" programme, with regular sessions and close support to enable them to respond to the questions of their audience and to relay the awareness raising messages. As part of its Gender Action Plan, the project will also target women as potential “champions” of the EbA approach, and leverage their leadership to reach women more effectively through its awareness raising activities. The experience, resources and networks of the "Faith For Earth" programme coordinated by UNEP will be used to raise awareness of religious leaders on environmental and climate issues.

Indicative activities:

- Development and implementation of a communication and knowledge management strategy for the project
- Knowledge exchange visits
- National level workshops for policy makers
- Awareness raising campaign on EbA and associated policy frameworks

Monitoring and Evaluation

The project will ensure that project results are effectively captured and adaptive management measures can be adopted in a timely manner throughout implementation, in line with UNEP and GEF M&E requirements. Regular monitoring and evaluation will take place throughout project implementation. The findings and recommendations from these will feed into the learning framework, building on lessons learnt from the project.

The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. An M&E plan consistent with the GEF M&E policy will be developed in the PPG phase. The Project Results Framework to be developed will include SMART indicators for each expected outcome as well as mid-term and end-of-project targets, and will include gender disaggregated indicators where relevant. These indicators will be the main tools for assessing project implementation progress and whether project results are being achieved. Day-to-day project monitoring will be the responsibility of the project management team particularly the Project Manager and an M&E specialist. In addition, component specific project partners will be responsible to collect specific information to track the indicators.

Indicative activities:

- Development and application of a M&E Plan for the project
- Results verification (prior to MTR)
- Midterm review

- Results verification (prior to TE)
- Terminal evaluation

Project Implementation Arrangements

The details of the project execution arrangement will be finalized in the PPG stage, on the basis of a capacity assessment of the Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts including a fiduciary capacity assessment.

Two scenarios will be studied and weighed, based on that assessment, during the PPG phase:

- A scenario with a single execution partner (The Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts), subcontracting to various organisations based on their skills and competencies. The Directorate for Environment and Forests (DGEF) has established a project management support unit in its Administration and Finance Department (DAF) to provide financial management, procurement and human resource services to donor-funded project management units in DGEF. It is being set up with capacity building support from UNDP Comoros.

- A scenario with multiple execution partners, including the Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts. The other execution partners could be other government bodies (such as the Ministry of Interior and Decentralization, or the Commissariat Général au Plan), international organisations with a long experience working in the Comoros (e.g. UNDP Comoros), or local organisations, according to the needs resulting from the proposed activities. In that case the Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts would keep the overarching responsibility for the management of the project.

Given the weak capacities of the institutional framework, a partnership arrangement may be proposed in order to ensure the necessary support to the Ministry in management and accountability practices. A full-time, dedicated Project Manager will be hired to lead a Project Management Unit (PMU) and execute the day-to-day management of the project. UNEP (Climate Change Adaptation Unit), as the Implementing Agency (IA) for the project, will oversee the project and provide the technical assistance required to meet the project. UNEP will be responsible for project supervision to ensure consistency with GEF and UNEP policies and procedures.

In both scenarios, the institutional structure of the project will include a Project Steering Committee (PSC), with a mandate to oversee and guide project implementation, and to review annual workplans and project reports. Task teams will be established, as needed, to focus on particular activities, as per partners' expertise. The project will include a wide partnership of various ministries, as well as key CSO's on the Project Steering Committee. This cross-government oversight will allow greater accountability and coordination among institutions.

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[1] UNEP Terminal Evaluation of GEF ID 3857: "Adapting water resource management in the Comoros to expected climate change", October 2017. UNEP Midterm Review of GEF ID 5694: "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods", December 2019

[2] Atela, J., Gannon, K.E. and Crick, F., 2018. Climate change adaptation among female-led micro, small and medium enterprises in semi-arid areas: a case study from Kenya.

[3] Both at individual level (tools, techniques etc.) and organisational level (managerial and functional capacities).

Coordination and Cooperation with Ongoing Initiatives and Project.

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

No

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 effective coordination and cooperation with other ongoing and planned initiatives will be essential for both efficiency and effectiveness of this project. Coordination and cooperation modalities with other projects and programmes engaged in climate change adaptation (land and coastal), natural resource management (e.g. forest, land, water), production systems (agriculture, fisheries) and infrastructure development (e.g. port and urban development) will be further defined during the PPG phase. At this stage opportunities have been identified from preliminary discussions with DGEF, Government agencies, UNDP Comoros, AFD Comoros which have been highlighted throughout the project description above (e.g. leveraging Ecosystem-based Adaptation funds under the GCF EBA IO and AFD Projects, the GoC/UNDP/LDCF climate-resilient agriculture project (under design) and the ongoing GCF/UNDP/Water Directorate "water resource management project" and the Global Fund for Coral Reefs to support Outcome 3.1; leverage preliminary studies on coastal ecosystems under the GCF EBA IO project to support Outcome 1.2; etc.). Specific areas for cooperation in projects bringing in co-financing is further elaborated in Annex A – co-financing.

The project will support the DGEF to coordinate with Government departments executing other projects and programmes within the Ministry of Agriculture, Fisheries, Environment, Tourism and Handicraft, and in other Ministries (e.g. infrastructure, planning commission, etc.), and international partners (e.g. UNDP, AFP, FAO). Proposed mechanisms include quarterly coordination meetings, online platforms for information exchange, webinars.

The project will also support DGEF and local municipalities and island-based Delegations to promote coordination between projects support local institutions in the same localities. This will include regular consultations/meetings, exchange of workplans and ensuring that respective project staff and stakeholders are invited to key planning and implementation meetings. Knowledge exchange will be promoted between projects through exchange of documents, establishing and maintaining online platforms and use of social media.

Similarly, the project will support DGEF to promote joint activities between projects – for instance local climate risk assessments. This can also include adopting joint protocols for adaptation planning and implementation of ecosystem-based adaptation measures in coastal zones.

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.

false

This Project will provide direct adaptation benefits to the private sector.

true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).

true

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund	Adaptation Fund	Pilot Program for Climate Resilience (PPCR)
true	**false**	**false**

This Project has an urban focus.

false

This project will directly engage local communities in project design and implementation

true

This project will support South-South knowledge exchange

true

This Project covers the following sector(s)[the total should be 100%]: *

Agriculture	5.00%
Nature-based management	20.00%
Climate information services	0.00%
Coastal zone management	65.00%
Water resources management	5.00%
Disaster risk management	5.00%
Other infrastructure	0.00%
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	Change in mean temperature	Increased climatic variability	Natural hazards
true	**true**	**true**	**true**

Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity
true	**true**	**false**

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1 Total number of direct beneficiaries	86,847	43,423.00	43,424.00	50.00%
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha)	1,500.00 2,500.00			

CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	11.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	2,450	1,250.00	1,200.00	48.98%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	50.00			

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation-such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the "Project description" section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	High	Ecosystem-Based Adaptation actions will take into account the impacts of climate change on their capacity to sustainably provide services, including for adaptation. For example, restoration actions will be designed so that the underlying ecosystems are able to resist more frequent droughts, sea-level rise or higher sea-surface temperature. In particular, restoration species will be selected in consultation with INRAPE (National Institute for Research on Agriculture, Fisheries and the Environment) for their capacity to withstand a higher range of variations in climatic perimeters as well as being non-invasives. The complex interactions between the impacts of climate change on ecosystems, coastal erosion, sedimentary drift and coastal protections works zone will be studied and integrated into the design of all activities, trainings, and in the PLAGIZC (local plan for adaptive

		and integrated management of the coastal zone). Project execution team will keep abreast of emerging research on climate resilient approaches relating to livelihood diversification activities, and development of resilient value chains etc. Moreover, the project will invest in public awareness and knowledge sharing activities to mainstream knowledge about climate resilience. Extreme events during project implementation could delay activity implementation, as has been experienced in the past. Contingency plans are typically developed for activities that are climate sensitive, including for example: water transfers for agriculture during periods of droughts, increased forest fire buffering and risk management during heat waves, protection of nurseries and materials during severe rainfall events. However, the risk remains high given Comoros' current rate of exposure to climate extremes.
Environment and Social	Substantial	The project will carefully consider UNEP and GEF ESS standards in its preparation and implementation phases. The PPG will further take into account the mitigation issues identified against environmental and social criteria identified in UNEP's SRIF. The PPG phase will assess the performance and effectiveness performance of the DGEF's Grievance Response Mechanism (GRM) established in 2021 by the UNEP/DGEF/LDCF GEF 5694 project, with a view of drawing lessons learned and outline any improvements to be applied to the DGEF's GRM.
Political and Governance	Substantial	The PPG project design will provide resources for the implementation of

		locally designed interventions, as a way to deepen the decentralization process and enable communes to exert their environmental competency. To limit the risk of political conflicts over the destination of these funds, the mechanism of transfer will be carefully designed during the PPG phase. In terms of governance over natural resources, the project will also work towards the co-management of marine and coastal resources to local communities, which aims to produce the enabling conditions to enhance adoption of good management practices at local level. This is a model which has been successfully implemented as part of the UNEP/DGEF/LDCF GEF 5694 project through local integrated watershed management plans and will be replicated for scaling up within coastal areas.
Macro-economic	Moderate	The PPG will critically assess the macro-economic situation of the Comoros following global challenges affecting the economy (e.g. global supply chains) and impacts on the proposed project objectives and outputs, and devise responses as necessary. The project will remain flexible in its approach and review risks regularly, including during the PPG phase. The project will pay particular attention to MSMEs being supported and how they may be impacted by such macro-economic factors, and how to build their resilience to external shocks.
Strategies and Policies	Moderate	The project has been designed to align with country strategies. However, given the fact that some key policies and strategies are now outdated, the PPG will update the

		review of existing strategies and policies and draft bills, to ensure proper alignment with the latest country priorities with regards to climate change adaptation, economic development, sectors and coastal zone management.
Technical design of project or program	Low	The institutional structure of the project will include a Project Steering Committee (PSC), with a mandate to oversee and guide project implementation, and to review annual workplans and project reports, and will include UNEP. UNEP will ensure that project activities are technically sound, and directly contribute to the adaptation objectives of the project. The PPG will critically look at the PSC membership as part the design to ensure its membership reflects the priorities of the proposed project. The PPG will engage in a participatory planning process with all stakeholder groups to re-validate the project design.
Institutional capacity for implementation and sustainability	Moderate	The project implementation structure will be designed during PPG and aim to both empower and strengthen the government institutions involved, while providing the necessary oversight and accountability measures. It will draw on the experience of the UNEP/DGEF/LDCF Project No. 5694 and recent establishment of a project management unit within the DGEF's Department of Administration and Finance to provide project management services (procurement, finance, HR) to donor funded projects. The PPG will ensure that the proposed project contributes to strengthening this capacity within DGEF and the Ministry. The PPG

		will also ensure a wide partnership of various ministries on the Steering Committee. This cross-government oversight will allow greater accountability among institutions and transparency in knowing climate adaptation financing flows. The PPG will also explore the opportunities for DGEF/Ministry to draw on executing partners (e.g. UN agencies, national and international NGOs) to undertake activities and achieve outputs.
Fiduciary: Financial Management and Procurement	Moderate	See above on institutional capacity for implementation and sustainability. Moreover, during the PPG phase, there will be a capacity assessment of the Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts, including a fiduciary capacity assessment. Depending on the outcome of the assessment, proper mitigation measures will be devised. The assessment will also be informed by UNEP's experience of implementing GEF project 5694 with the Ministry and recent development by DGEF to establish a project management unit within its Department of Administration and Finance to service donor-funded projects.
Stakeholder Engagement	Low	Project interventions will be devised during PPG with urgent and pressing needs in mind. Climate-resilient livelihoods are at the heart of this project, thereby providing a socio-economic incentive for participation. This project also proposes to effectively involve trusted local men and women leaders from municipalities, communities, local organization, religious leaders, etc., which should result in a meaningful

		and inclusive engagement across groups.
Other	Low	It is likely that the COVID pandemic will be finished by the time this project is operational. However, implementation plans will take into consideration sanitary risks and measures. Precautions will be taken to ensure safety of all contracted staff and consultants. Should the pandemic resume or other zoonotic epidemic emerge and impact the project preparation phase, every effort will be made to conduct work with limited travel and respecting local sanitary norms and precautions regarding the number of people in meetings.
Financial Risks for NGI projects		
Overall Risk Rating	Moderate	

C. 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 LDCF project is aligned with the three priority areas of GEF-8's Programming Strategy on Climate Change Adaptation for the LDCF and the SCCF (2022-2026) namely: 1. Scaling Up Finance; 2. Strengthening Innovation and Private Sector Engagement; and 3. Fostering Partnership for Inclusion and Whole of Society Approach.

Within the framework of the Component 1, by planning the revision of the national ICZM plan and the updating of local plans (PLAGIZC), the project will feed into the first and third priority area of the LDCF strategy (Scaling Up Finance; Fostering Partnership for Inclusion and Whole-of-Society Approach), in particular the sub-thematic 'Reinforcing Policy Coherence'. In addition, the activities related to the support of the co-management of marine and coastal resources and the enforcement of environmental laws will contribute to the LDCF sub-thematic 'Strengthening institutional capacity'. Furthermore, the output provisioning for the implementation of a participatory system to monitor ecological indicators is aligned with the sub-thematic 'Enhancing tools and metrics as enablers for adaptation impact'.

Activities under the Component 2, the project supports the priority area 2 (Strengthening Innovation and Private Sector Engagement), in particular the sub-thematic 'Advancing Technology Transfer, Innovation, and Deployment' through the implementation of EbA restoration activities and the piloting of an innovative alternative to sand mining. These can also be linked to the third strategic areas as the implementation of

restoration activities will be done in partnership with local organizations as prescribed by the sub-thematic 'Building partnership with local organizations'.

Components 3 which focuses on fostering participation in the blue economy also supports priority area 2 is compliant with various sub-thematic of the LDCF programing strategy. In this respect, 50 MSMEs will be incubated with technical assistance, financial matchmaking, and/or direct financing, which feeds into the sub-thematic 'Incubating and Accelerating Micro, Small, and Medium Enterprises'. The result framework also provides for the implementation of small-scale financing facilities tailored to the needs of fishers which is in line with the sub-thematic 'Using Grant Finance to Share Risk and Catalyze Private Sector Investment' and 'Catalyzing Inclusive Microfinance'.

The proposed project concept is included in UNEP's approved Adaptation and Resilience Programme Coordination Project (PCP) which aims to carry forward UNEP's Medium-Term Strategy (MTS) and climate change sub-programme by enhance capacity building, technology, and finance in support of the Paris Agreement to support efforts to close the financing and implementation gap on adaptation, aligned to Outcomes 1A and 1B of the MTS. The Climate Change sub-programme prioritizes support to government and non-government development partners to ensure that development plans and actions are compatible with the long-term mitigation and resilience goals of the Paris Agreement. UNEP MTS approach in which 'Climate Action' and 'Living in Harmony with Nature' are two of three strategic priorities (the other being a pollution-free planet) is underpinned by science; and environmental law and governance and facilitated by financial and economic transformation; and digital transformation, to which this proposed project contributes too.

D. 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: Yes

Private Sector:

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

Stakeholder name/type	Potential roles in project	Description of consultations at PIF stage

Government **Central government** ● Ministère de l'Agriculture, de la Pêche, de l'Environnement, du Tourisme et de l'Artisanat (Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts) ● Ministère de l'Economie, des Investissements et de l'Energie (Ministry of Economy, Investments and Energy) ● Ministère de l'Aménagement du Territoire et de l'Urbanisme, chargé des affaires foncières et des transports terrestres (Ministry of Land-use and Urban Planning, in charge of Land and Roads) ● Ministère de l'Intérieur, de la Décentralisation et de l'Administration territoriale (Ministry of the Interior, Decentralization, and the Territorial Administration) ● Ministère des Affaires étrangères et de la Coopération Internationale (Ministry of Foreign Affairs) ● Ministère de la Santé, de la Solidarité, de la Protection Sociale et de la Promotion du Genre (Ministry of Health, solidarity, social protection and gender issues) ● Ministère des Transports Maritimes et Aériens (Ministry of air and marine transportation)	These partners will provide institutional support and receive capacity building training to support project implementation. They will also receive information on lessons learned during project implementation so that they may include adaptation-related considerations in their own projects and activities	January 9th 2023: Inception meeting with M. Youssouf Elamine, GEF OFP, Alex Forbes, Task Manager, UNEP and Sarah Lebel, UNEP Consultant January 16th 2023: Virtual workshop with following government officials and sectoral experts. The experts followed up after the meeting by providing a detailed list of priorities based on internal consultations, as well as a panorama of ongoing or past baseline activities in the country. • Salima Hamada, National expert on environment and climate change, marine and coastal environment, Environment and Forests Department, in charge of the NAP • Youssouf Elamine, GEF OFP • Aicha Haribou, climate change team of the DGEF, technical expert in charge of the 3rd national communication to the UNFCCC • President of the NGO Malavitz. • Nair Aboubacar: cartographer, intervenes in GIS with DG forest, land use planning geo-statistician for the development plan of Mohéli • Faissoil Mhadji : National Focal Point IPCC, in charge of monitoring national GHG inventories and the NAP National Directorate of Environment and Forests Ministry of Agriculture, Fisheries, Environment, Tourism and Handicraft

Central Public Agencies ● ANACEP (National Agency for the design and implementation of projects) ● ANPI (National Agency for Promotion of Investments) ● Commissariat Général au Plan (National Planning Commission) ● Direction Générale de la Sécurité Civile (Civil Security General Direction) ● Office National du Tourisme des Comores (National Tourism Office) ● Agence Nationale de l'Aviation Civile et de la Météorologie (National Agency for Civil Aviation and Meteorology) **Subnational public administrations** ● Directions régionales de l'Environnement et Forets (Regional Directorates for the Environment and Forests) ● Directions régionales de l'Aménagement (Regional Directorates for Land Use Planning) ● Préfectures ● Communes		• Mhoumadi: responsible for monitoring and evaluation of the DGEF • Assani Moinahalima, Conservation specialist with DGEF • Sarah Lebel, UNEP Consultant January 25th 2023: Virtual consultation with the Department of Fisheries Director, M. Youssouf Ali February 28th 2023: Blended work session held at DGEF offices in Moroni with the following UNEP, Government staff and sectoral experts to review draft PIF and validate proposed project rationale, ToC, results framework, and coordination and implementation modalities: • Salima Hamada, National expert on environment and climate change, marine and coastal environment, Environment and Forests Department, in charge of the NAP • Youssouf Elamine, GEF OFP • Aicha Haribou, climate change team of the DGEF, technical expert in charge of the 3rd national communication to the UNFCCC • President of the NGO Malavitz. • Nair Aboubacar: cartographer, intervenes in GIS with DG forest, land use planning geo-statistician for the development plan of Mohéli. • Faissoil Mhadji : National Focal Point IPCC, in charge of

		monitoring national GHG inventories and the NAP National Directorate of Environment and Forests Ministry of Agriculture, Fisheries, Environment, Tourism and Handicraft • Mhoumadi: responsible for monitoring and evaluation of the DGEF • Assani Moinahalima, Conservation specialist with DGEF • Sarah Lebel, UNEP Consultant
National Research institutions ● University of the Comoros ● INRAPE (National Institute for Research on Agriculture, Fisheries and the Environment) ● CNDRS (National Centre for Scientific information and Research)	Research institutions will play a key role in helping generate the knowledge necessary to enhance adaptation planning under Component 1, as well as for Knowledge Management under Component 4.	Insights collected by DGEF and from implementation of the DGEF/UNEP/LDCF project "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods (GEFID 5694)".
Civil Society and not for profit organisations ● *Ulangas* (grassroot environment-related associations) ● Women associations and cooperatives ● Workers associations, in particular in the fisheries, tourism and construction sectors. ●	These organizations will play a key role in sharing lessons learned, helping local communities to pilot their own interventions and will act as vehicle for information dissemination.	January 16th 2023: Virtual workshop included the President of the NGO Malavitz

Voluntary religious organisations concerned with climate change (Koranic schools, brotherhoods etc.)		
Local Entrepreneurs/MSMEs	Individuals engaged in economic activities relying on coastal natural resources will be the beneficiaries of project interventions and contribute to the implementation of activities in the project sites. This will include vulnerable groups, practicing sand extraction, fishing, and other users of natural coastal resources grouped into cooperatives and associations, in particular women. They will receive technical trainings and be supported into changing their economic practices.	Not consulted during the PIF preparation but insights collected by DGEF and from implementation of the DGEF/UNEP/LDCF project "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods (GEFID 5694)". Consultations with local entrepreneurs and MSMEs actors will be a priority during the proposed project development phase (PPG).
Other private sector actors ● l'Union des Chambres de Commerce, d'Industrie et d'Agriculture (UCCIA) ● Business/sector associations (ex..: SYNACO, MODEC, Nouvelle OPACO), ● Major companies of the construction sector (ex.: EGT, CBE, SCBMC…) ● Finance sector (ex. : BDC, U- Mecks (Mutuelles d'épargne et de crédit ya Komor : local micro-finance associations to support community investments) , BIC Comores)	The approach undertaken to engage with the private sector will be value chain-specific, and will involve an inclusive strategy of intervention where the role of the private sector, producer organizations, and community-based organizations will be identified and coordinated at various stages of production, according to their expertise. While the focus of UNEP will be on reinforcing cooperatives and associations, efforts will be made to cover the overall value chain by facilitating the development of private sector partnerships for sustainable production and consumption schemes. The transformation of the construction sector, to fight against coastal erosion and	Not consulted during the PIF preparation but insights collected by DGEF and from implementation of the DGEF/UNEP/LDCF project "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods (GEFID 5694)". Consultations with private sector actors will be a priority during the proposed project development phase (PPG).

	provide more resilient buildings, is a key objective of the proposed LDCF project. This transformation needs to be systemic and to trigger changes in the construction material used, technical skills of the workers, procurement practices of the project owners and the fiscal and regulatory environment of the sector. To that end, consultations with private actors (mainly operating in the sectors of production of building materials, transportation, construction and in finance sector) will be instrumental for designing a relevant demonstration, and to create the right set of national incentives to upscale the adoption of new practices in this sector.	
Local communities and vulnerable groups	All UNEP Projects have a very strong component of local inclusion and engagement in implementation, and this project is designed in line with this approach. This project will thus continue the tradition of UNEP projects of implementing activities through local organizations that have representation from the villages in which they are operating. UNEP provides the oversight, management and strategic advice, but works in tandem with local peoples to encourage learning-by-doing and to yield more sustainable results.	Under the DGEF/UNEP/LDCF project "Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods (GEFID 5694)", consultations with community groups located in coastal areas in Moheli, Anjouan and Grande Comore in 2021 and 2022 served to highlight problems faced by coastal communities. These consultations served to inform the design of this PIF. The Government of the Comoros engaged in several consultations in 2022 and early 2023 as part of other projects (e.g. FAO RENAP 2 project on co-management of marine areas), which highlighted the priorities which also served to inform the design of this PIF.

		Extensive consultations will be undertaken during the PPG phase with communities and vulnerable groups in all 14 communities in the proposed project sites.

(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
Low			

E. 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 ($)

UNEP	LDCF	Comoros	Climate Change	LDCF Country allocation	Grant	8,925,000.00	847,875.00	9,772,875.00
Total GEF Resources ($)						**8,925,000.00**	**847,875.00**	**9,772,875.00**

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount ($)

200000

PPG Agency Fee ($)

19000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG($)	Agency Fee($)	Total PPG Funding($)
UNEP	LDCF	Comoros	Climate Change	LDCF Country allocation	Grant	200,000.00	19,000.00	219,000.00
Total PPG Amount ($)						**200,000.00**	**19,000.00**	**219,000.00**

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	8,925,000.00	22851691
Total Project Cost		**8,925,000.00**	**22,851,691.00**

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts	In-kind	Recurrent expenditures	1388176
Donor Agency	GCF - Indian Ocean Commission	Grant	Investment mobilized	4054290
Donor Agency	GCF - EBA IO project	Grant	Investment mobilized	1582500
Donor Agency	GCF - Ensuring climate resilient water supplies in the Comoros Islands	Grant	Investment mobilized	4453800
Donor Agency	IDA - Comoros Post-Kenneth Recovery and Resilience Project	Other	Investment mobilized	2058350
Donor Agency	IDA - Comoros Interisland Connectivity Project	Grant	Investment mobilized	7142850
Donor Agency	AfDB - National Road Network Rehabilitation Programme - Phase III	Grant	Investment mobilized	63750
Donor Agency	AFD – Adapt'Action	Grant	Investment mobilized	168400
Donor Agency	Adaptation Fund - Building Urban Climate Resilience In South-Eastern Africa	Grant	Investment mobilized	1439575
Donor Agency	AFD/FFEM – RECOS Project	Grant	Investment mobilized	500000
Total Co-financing				**22,851,691.00**

Describe how any "Investment Mobilized" was identified

Investment mobilized was identified through consultations with national level stakeholders, including government officials, who provided a mapping of ongoing and planned interventions in the country that are complementary to this project, and will likely contribute to the achievement of its Outcomes.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Victoria Luque Panadero	4/11/2023	Jessica Troni	+254795751062	jessica.troni@un.org

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

Name	Position	Ministry	Date (MM/DD/YYYY)
Youssouf Elamine Y. Mbechezi	Director General, Directorate for Environment and Forests	Ministry of Agriculture, Fisheries, Environment, Tourism and Handicrafts	12/28/2022

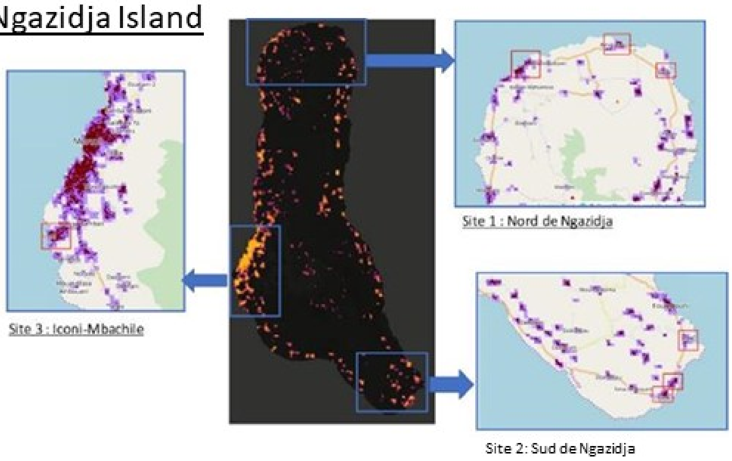
ANNEX C: PROJECT LOCATION

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

The project will be implemented in each of the three islands of the Comoros: 3 sites on the island of Ngazidja (Grande Comore); 2 sites on the island of Anjouan; and, 1 site on the island of Mohéli. These 6 sites comprise of 14 municipalities or villages grouped in 9 Communes, which are themselves in 7 Prefectures.

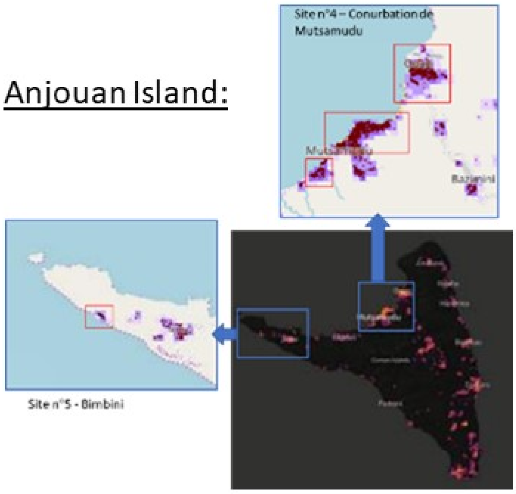
The map below show the location of the six project sites across three islands, with regard to the population density (central map) and of the built-up area (detail maps) of each island. The geo-reference location for each site is indicated.

Ngazidja Island



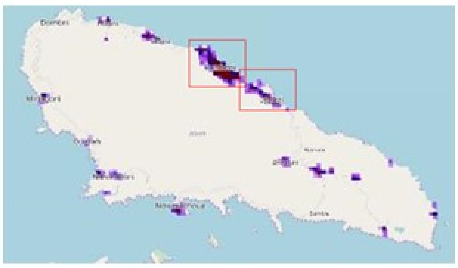
Site 1 : Nord de Ngazidja - Mitsamiouli (Location: -11.38691, 43.29753)
Site 2 : Sud de Ngazidja - Itsahidi / Male (Location: -11.88755, 43.50765)
Site 3 : Iconi-Mbachile (Location: -12.16886, 44.39861)

Anjouan Island:



Site 4 : Mutsamudu (Location: -12.16886, 44.39861)
Site 5 : Bimbini (Location: -12.19229, 44.23467)

Moheli Island



Site 6 : Fomboni-Djoiezi (Location: -12.29089, 43.74479)

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
UNEP Safeguard Risk Identification Form Comoros Coastal EbA March 2023

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	Principal Objective 2	No Contribution 0	No Contribution 0

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing models			
	Strengthen institutional capacity and decision-making		
	Demonstrate innovative approaches		

Stakeholders			
	Private Sector		
		SMEs	
		Individuals/Entrepreneurs	
		Non-Grant Pilot	
	Beneficiaries		
	Local Communities		
	Civil Society		
		Community Based Organization	
		Academia	
	Type of Engagement		
		Consultation	
		Participation	
	Communications		
		Awareness Raising	
		Public Campaigns	
		Behavior Change	
Capacity, Knowledge and Research			
	Enabling Activities		
	Capacity Development		
	Knowledge Generation and Exchange		
	Innovation		
	Knowledge and Learning		
	Stakeholder Engagement Plan		
Gender Equality			
	Gender Mainstreaming		
		Beneficiaries	
		Women groups	
		Sex-disaggregated indicators	
		Gender-sensitive indicators	
	Gender results areas		
		Access and control over natural resources	
		Participation and leadership	
		Access to benefits and services	
		Capacity development	
		Awareness raising	
		Knowledge generation	
Focal Areas/Theme			
	Climate Change		
		Climate Change Adaptation	
			Least Developed Countries
			Small Island Developing States
			Sea-level rise
			Climate Resilience
			Ecosystem-based Adaptation
			Adaptation Tech Transfer