



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

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PART I: PROJECT INFORMATION

Project Title:	Managing multiple sector threats on marine ecosystems to achieve sustainable blue growth		
Country(ies):	Cape Verde	GEF Project ID: ¹	9705
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5880
Other Executing Partner(s):	Ministry of Agriculture and Environment (MAE) / General Directorate for Environment (DGA) with Ministry of Economy and Employment (MEE) / General Directorate Marine Resources (DGRM)	Submission Date:	25 July 2016
		2 nd Submission Date:	27 January 2017
		3 rd Submission Date:	24 February 2017
		4 th Submission Date:	01 March 2017
GEF Focal Area(s):	Biodiversity	Project Duration (Months)	60
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		Corporate Program: SGP <input type="checkbox"/>
Name of parent program:	N/A	Agency Fee (\$)	359,847

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
BD-1: Programme 1	GEF-TF	2,240,948	6,198,334
BD-2: Programme 4	GEF-TF	773,458	3,600,833
BD-4: Programme 9	GEF-TF	773,458	3,600,833
Total Project Cost		3,787,864	13,400,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To strengthen systemic and institutional capacity for reducing multiple threats to globally significant marine ecosystems and achieve sustainable blue growth in Cape Verde

Project Components	Financing Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. National frameworks for maritime sector planning and threat management	TA	<p>1.1 Direct adverse impacts on marine biodiversity from key maritime sectors are prevented or reduced in at least the national coastal zone of 1,000,000 ha. <i>Indicators:</i> use of integrated spatial marine planning system; increased number of enforcement actions; reductions of threats such as harmful fishing and tourism practices and illegal/over harvesting.</p> <p>1.2 Initial IAS prevention and management framework emplaced. <i>Indicator (target):</i> UNDP IAS Capacity Development Scorecard (+20%); GEF TT for IAS.</p>	<p>1.1 Biodiversity and environmental sustainability mainstreamed within the sector development visions and plans outlined in the Blue Growth Strategy (incl. aquaculture; artisanal, industrial and sports fisheries; energy generation; port construction and related industrial developments; maritime traffic; etc.) and necessary mandatory standards and processes established for operationalisation of the sector plans.</p> <p>1.2 GIS-based marine spatial planning platform set up, staffed and operationalised; involving the cross-sector platform established under the Blue Growth initiative, development and adoption by relevant sectors of an Integrated Marine Spatial Plan (IMSP) that embraces long-term environmental, social and economic sustainability; emplacement of IMSP monitoring and compliance mechanisms;</p>	GEF-TF	1,160,000	6,775,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

		<p>1.3 Maritime sector strategies and investments aligned with Integrated Marine Spatial Plan. <i>Indicator:</i> operationalised mandatory sector standards and process that safeguard biodiversity.</p> <p><i>SMART indicators, baselines and targets will be determined during the PPG.</i></p>	<p>strengthening of EIA and SEA in DGA.</p> <p>1.3 National frameworks established for key International Maritime Organisation conventions (MARPOL, OPRC, London C., Anti-Fouling C.): a) legal and regulatory frameworks prepared and adopted; b) national early warning system and intervention protocols prepared for maritime accidents and oil/ chemicals spills.</p> <p>1.4 National IAS prevention and management framework developed: a) IAS pathways and vectors assessed; b) national IAS strategy and legal and regulatory IAS framework developed and adopted; c) IMO Ballast Water Convention ratified and national framework established.</p> <p>1.5 Biodiversity considerations integrated into up-scaling of fisheries co-management to artisanal fishing communities (by PRAOCV-II³); assessment of feasibility (acceptability, markets) of a nation-wide marine certification of fisheries products (MSC).</p> <p>1.6 A range of trainings provided on environmental/ biodiversity matters including marine spatial planning, maritime conventions, IAS prevention and management, MPA and fisheries enforcement, and co-management and certification to key central government units relevant to Blue Growth and IMSP.</p>			
2. Capacity for marine biodiversity conservation and sustainable use	TA	<p>2.1 Human and institutional capacity of DGA PA unit and key NGOs increased. Indicator (target): UNDP PA Capacity Development Scorecard (+30%); existence of HR needs review; staff rotation; # staff attending DGA PA trainings/yr; existence of PA finance data base.</p> <p>2.2 Finance for marine biodiversity/PAs increased. Indicator (target): GEF Programme 1 TT/Finance Scorecard (+30%).</p> <p><i>SMART indicators will be confirmed and baseline and targets will be determined during the PPG.</i></p>	<p>2.1 Training programme institutionalised within DGA for enhancing institutional and staff capacity of the new PA management unit on marine PA management, enforcement and financing. Training will also be extended to relevant officers in MAE island delegations and local conservation NGOs working in the Santa Luzia area.</p> <p>2.2 PA System Financing Strategy and Plan updated and operationalised: a) identification of management needs; b) PA finance database established; c) rigorous PA finance needs and gap assessment; d) Biodiversity Public Expenditure Review (PER) to determine financing baselines and identify opportunities to realign budgets and enhance spending effectiveness and efficiency; e) assessment of options for new sustainable revenue-generating mechanisms for BD/PAs; f) key recommendations emerging from PER and financing mechanisms adopted and operationalised.</p>	GEF-TF	680,000	700,000
3. Conservation of biodiversity and marine resources in Santa Luzia-Branco-Raso NR	TA/ INV	<p>3.1 Improved local conservation status of marine resources and endemic and globally threatened species and key habitats, through full operationalisation of the Santa Luzia/ Branco/ Raso</p>	<p>3.1 As an extension of the systemic work on marine spatial planning and enhanced management of marine resources, fully operationalise Santa Luzia-Raso-Branco Natural Reserve, including through: (a) delimitation and gazettelement; (b) on-site demarcation of boundaries; (c) update and approval of PA management and business</p>	GEF-TF	1,367,489	5,285,000

³ West Africa Regional Fisheries Programme – Cape Verde, of DGRM and World Bank

		<p>Natural Reserve (45,462 marine ha and 4,065 terrestrial ha). Indicators (targets): i) METT/GEF-6 Programme 1 TT (+30%); ii) indices for suitable indicator species as proxies: key fish species such as Garoupa vermelha <i>Epinephelus</i> sp. # in dive transects or fixed underwater camera field of view; # shark dive sightings; # sea-turtle nests and sightings; # of seabirds#; coral cover, diversity and condition in transects.</p> <p>3.2 Reduction of adverse biodiversity impacts from artisanal fisheries across at least the 45,462 ha of MPA, through the adoption of biodiversity-friendly fishing practices and gear by at least 50% of fishermen in the surrounding fishing communities.</p> <p><i>SMART indicators will be confirmed and baseline and targets will be determined during the PPG</i></p>	<p>plans; d) governance and conflict resolution mechanisms; (d) regulation, management and enforcement of the use of natural resources by nearby communities; (e) management and servicing of tourism flows.</p> <p>3.2 Focusing on the artisanal fishermen communities using Santa Luzia NR from São Vicente, São Nicolau and Santo Antão: a) sustainable fisheries co-management agreements established that respect PA laws; b) capacity training and extension services provided with PRAOCV-II; c) biodiversity-friendly and sustainable fishing adopted (best practices and gear, designation of PA no-take zones and seasonal fishing bans, etc.).</p> <p>3.3 Pilot a new scientific monitoring and in-situ surveillance tool for Cape Verde: a) acquire, test and emplace drones as a means for cost-effective fisheries and PA management of Santa Luzia NR; b) establish and train drones operations and maintenance team; c) report back on community reactions, practicality, effectiveness, challenges, etc.</p> <p>3.4 Micro-grants for sustainable alternative livelihoods and professional training provided to selected artisanal fishermen in critical high-impact communities interested in professional reorientation.</p>			
4. M&E, Learning and Knowledge Management	TA	<p>4.1 M&E of socioeconomic and environmental/ ecological impacts in the targeted region and project sites tracked.</p> <p>4.2 Adaptive project management reflects M&E recommendations.</p> <p>4.3 Best practices and case studies from project codified and disseminated nationally and internationally.</p> <p>4.4 Newly developed government endeavours on marine biodiversity management reflect and integrate results, learning and benchmarking from relevant prior work in Cape Verde and beyond.</p> <p><i>SMART indicators will be confirmed and baseline and targets will be determined during the PPG.</i></p>	<p>4.1 Project-specific M&E/MRV framework developed, to fully and regularly assess quantitative and qualitative environmental and socio-economic impacts of all interventions; this includes a scientifically rigorous marine resource and biodiversity monitoring emplaced with local NGOs and academia (BIOSFERA, INDP, UNCV).</p> <p>4.2 Selected learning and knowledge management products developed, including a critical review of relevant past work on biodiversity management in Cape Verde.</p> <p>4.3 Biodiversity CHM website created and populated to international standards.</p> <p>4.4. Regular (quarterly) dissemination and training events on marine and terrestrial biodiversity management convened by DGA for relevant project and government staff from key sectors, on past, ongoing and proposed work in Cape Verde and related international benchmarking.</p> <p>4.5 Mid-term Review and Terminal Evaluation conducted, to include beneficiary surveys to verify cost savings, job creation benefits and other socio-economic including gender impacts of all interventions supported.</p>	GEF-TF	400,000	0
		Subtotal			3,607,489	12,760,000
		Project Management Cost (PMC)*	GEF-TF		180,375	640,000
		Total Project Cost			3,787,864	13,400,000

*: UNDP Cape Verde will likely charge Direct Project Costs on PMC, with details to be provided during PPG.

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Recipient Government	MAE – Fundo Nacional do Ambiente	Grant	700,000
Recipient Government	MAE – DGA	In kind	2,000,000
Recipient Government	MEE – DGRM/PRAOCV-II/ACOPESCA	Grant	2,000,000
Recipient Government	Agencia Marítima e Portuária	Grant	1,000,000
Recipient Government	Guarda Costeira / COSMAR	Grant	1,000,000
Recipient Government	Ministry of Finance / Economy	Grant	1,000,000
CSO	CEPF	Grant	200,000
CSO	MAVA Foundation	Grant	2,000,000
GEF Agency	FAO	Grant	2,500,000
GEF Agency	AfDB	Grant	1,000,000
Total Co-financing			13,400,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^{a)}

GEF - Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNDP	GEF-TF	Cape Verde	Biodiversity	N/A	3,787,864	359,847	4,147,711
Total GEF Resources					3,787,864	359,847	4,147,711

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$100,000					PPG Agency Fee: 9,500		
GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee (b)	Total c = a + b
UNDP	GEFTF	Cape Verde	Biodiversity		100,000	9,500	109,500
Total PPG Amount					100,000	9,500	109,500

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	1,049,527 ha (1,000,000 ha benefitting from mainstreaming + 45,462 ha marine PA + 4,065 ha terrestrial PA)

PART II: PROJECT JUSTIFICATION
1a) Project Description: Global environmental problems, root causes and barriers that need to be addressed in Cape Verde and the target regions
Overview and global environmental problems

1. *Geography and key socio-economic data.* Cape Verde is a small island nation consisting of 10 islands and 8 islets totalling 4,033 km² of land area and 965 km of coastline. Situated between 600 and 900 km off the West African coast, the archipelago is divided into the northern Windward Islands (Santo Antão, São Vicente, Santa Luzia, São Nicolau, Sal and Boavista) and the southern Leeward Islands (Maio, Santiago, Fogo and Brava). While the majority are rocky and with

steep relief, the three easternmost islands Sal, Boavista and Maio are sandy and largely flat with maximum elevations of less than 400 m asl. The country's Exclusive Economic Zone (EEZ) comprises 796,840 km² of ocean area (12nm-territorial waters 25,078 km², shelf area 3,768 km², inshore fishing area 5,697 km²). See maps in Annex 1.

2. Cape Verde's population was c. 550,000 in 2015 and all 10 islands are inhabited with the exception of Santa Luzia. In 2008, Cape Verde's economic status graduated from Least Developed to Middle Income Country, reflecting a decade of stable economic improvement and a doubling of GDP per capita (\$4,100 in 2012). Cape Verde ranked 2nd on the Ibrahim Index of African Governance in 2015. A new Government was recently elected and is in the process of assuming powers and restructuring the administration. The total budget approved by the incoming government in June 2016 amounts to \$511 million (51 billion CVE).

3. The country's future economic development will depend to an important extent on how the country can use its substantial marine and coastal areas to generate revenue and employment. Undoubtedly there is significant potential for growing marine/maritime sectors – in the services domain (shipping, cargo, refuelling, bunker fuel recycling, etc.), or in exploiting non-renewable resources (oil, gas, seafloor mining, etc.) or renewable natural resources (fisheries, aquaculture, renewable energy, etc.). To catalyse such developments, the Government of Cape Verde (GOCV) with the support from **FAO in 2015 prepared and adopted a Blue Growth Charter and is presently working on a Blue Growth Strategy** to be implemented over the coming decades. In doing, so it is critical for the GOCV to protect its resources from unregulated or illegal exploitation, and to fully integrate all three pillars of sustainability – which asks *inter alia* for a rational and sustainable management of the archipelago's marine living resources and ecosystems.

4. Terrestrial biodiversity and its status and threats. The isolation of the archipelago combined with local species adaptations have resulted in important levels of species richness and endemism: Cape Verde is the south-western outlier of the Mediterranean Biodiversity Hotspot and its terrestrial habitats are linked to the ancient Macaronesian Forests, one of WWF's Global 200 Ecoregions. Terrestrial biodiversity is well distributed throughout the 10 islands; Santo Antão is the most diverse, but all of the islands harbour at least one endemic species. There are 238 vascular plant taxa in Cape Verde, of which 82 are endemic species; this included several indigenous tree species such as *Dracaena draco*, *Phoenix atlantica*, *Acacia albida* and the endemic *Sideroxylon marginata*. However many are threatened such as these tree species, and e.g. 40 of 110 bryophyte species (including 6 of the 15 endemics). The native fauna is characterized by important invertebrate, reptile and avian diversity and equally at great risk. For instance, Cape Verde possessed 28 species of reptile in its history, 25 of which are endemic and 18 of which are still in existence, with 25% of those in existence being threatened. For instance the unique Giant Skink *Chioninia coctei* is considered Extinct, and the Cape Verde Leaf-toed Gecko *Hemidactylus bouvieri razoensis* is Critically Endangered. The whole Cape Verde archipelago is considered to be an Endemic Bird Area with 12 Important Bird Areas totalling 11,012 ha; 87 species are recorded from the islands, including 5 endemics; 4 species are listed as globally threatened (including the single-island endemic Raso Lark *Alauda razae*, and the Cape Verde Warbler *Acrocephalus brevipennis* EN) and three further species near-threatened; and important seabird colonies remain on some of the remoter islands. At least the Santa Luzia-Raso-Branco group of islands to the east of São Vicente has been designated a Key Biodiversity Area (please see §33).

5. Threats to terrestrial biodiversity emanate mainly from habitat loss and degradation from agriculture and urbanisation, biodiversity-harmful agricultural practices and livestock overgrazing and the over-exploitation of trees and shrubs. In coastal areas on especially Sal and Boavista, this is compounded by rapid coastal-ribbon tourism and real estate developments, and inappropriate tourist activities. Like in many other SIDS, these are aggravated by a range of high-impact invasive alien species and climate change, and both may cause devastating impacts in the future on both natural and productive ecosystems and by extension on the national economy (e.g a millipede pest of fruits already caused substantial damage to agricultural livelihoods on Santo Antão and nearby islands).

6. Marine biodiversity and its status and threats. Although the country's marine ecosystems have not been studied in great depth, a lot of critically important new information has emerged over the last decade that has put the country on the global map of marine biodiversity hotspots. There are at least 22 species of whales and dolphins, as well as globally important humpback whale mating and calving sites in the waters around Boa Vista and Sal. The islands also provide important breeding and foraging grounds for five sea turtle species (Leatherback *Dermochelys coriacea* CR, Hawksbill Turtle *Eretmochelys imbricata* CR, Green Turtle *Chelonia mydas* EN, Loggerhead *Caretta caretta* EN and Olive Ridley *Lepidochelys olivacea* VU), and harbour the second-most important Loggerhead nesting sites in the Atlantic. There are records for 639 species of fish including at least 13 endemics (e.g. Lubbock's Chromis *Chromis lubbocki*, Cape Verde Skate *Raja herwigi*, Smalltooth Sawfish *Pristis pectinata* CR) and 38 endangered cartilaginous fish species. Marine molluscs endemic to Cape Verde include nearly 50 *Conus* species - 10% of the genus's global species richness. Cape Verde has also been described as one of the world's top ten coral reef biodiversity hotspots, although there are no reef

building corals. While available data indicated for long that marine biodiversity and resources are concentrated particularly on the marine platform surrounding the islands of Sal and especially Boavista and Maio, more recent distributional studies have added especially the islands of São Vicente and Santa Luzia as hotspots of coral diversity and highlighted their importance for marine biodiversity and resources (see maps in Annex 2).

7. At present, marine biodiversity in Cape Verde is most affected by biodiversity-harmful fishing practices and for some species also direct over-exploitation. The risks posed by fisheries on biodiversity in Cape Verde arises from impacts on vulnerable marine habitats (corals and benthic habitats are under pressure from bottom-trawling and the use of fishing nets), and on the targeted or accidental over-exploitation of threatened or endemic species, affecting marine animals but also sea birds. These impacts can occur legally or illegally, and have led to a significant decline of fish populations especially in coastal waters. The Cape Verde Spiny Lobster *Palinurus charlestoni* is an endemic crustacean whose status has declined to near-threatened because of the severe and targeted exploitation by artisanal fishermen. Bycatch of sea-turtles exacerbates the pressures these species experience on nesting beaches, where adults and eggs are still killed and eaten by dogs and illegally killed for consumption by locals on nesting beaches (which after some better years has seen a severe resurgence the end of the *PA Consolidation Project* GEF # 3752 in 2015). Aquaculture (to all purposes) is still in its infancy in Cape Verde but project ideas have emerged over the last decade that are being planned or emplaced – with support from FAO and bilateral foreign investors – on at least lobster and shrimp aquaculture, and on growing marine algae to produce 3rd generation biofuels; there are no reports on biodiversity impacts at this stage. While disturbance of cetaceans by tourism activities boats is an issue on Sal and Boavista, there are no reports about (regular) deaths of whales from collisions with larger ships in the archipelago. Both land and sea-based pollution with chemicals or waste are still very localised and have not had significant impacts to date. The same can be said about marine Invasive Alien Species – at least five species are known to have arrived (the algae *Hypnea musciformis*, *Caulerpa webbiana* and *Polysiphonia brodiei*; the bryozoan *Watersipora subtorquata*; and the Gilthead Bream *Sparus aurata*) but to date impacts have still been relatively limited. Direct impacts from climate change that may be linked to changes in water temperature, productivity or ocean currents have begun to be observed – e.g. the arrival of new tropical fish species in the south; however very little can be done to reduce impacts – except for a better management of all other threats to maintain healthy ecosystems with greater resilience.

8. *Marine living resources.* The available fisheries resources in the overall ZEE were estimated by FAO as between 25,429 and 33,554 tons/yr. Total captures were at around 10,000 tons/yr in 2010, and targeted primarily large offshore pelagics⁴ and smaller coastal pelagics⁵ accounting for 75% of total captures. Cape Verde has signed several bilateral fishing agreements, with Japan, the EU and others, however Illegal, Unregulated and Unreported (IUU) fishing by foreign boats across the EEZ has been rampant – West Africa is a global hotspot of IUU fishing, with losses to national economies estimated to \$1 billion. The landings only of the artisanal fleet were around 4,000 tons in 2008, including 30% tuna and related species, 32% small pelagics, 24% demersals and less than 2% molluscs and crustaceans⁶. While there is a general agreement that the marine resource base in Cape Verde is declining, the state of fisheries is described as still largely underexploited⁷, or already unsustainable, depending on the source of information and the specific fisheries in question. Only tuna and large pelagics seem to offer space for an increase in exploitation⁸. Coastal artisanal fisheries however exhibit particularly unsustainable patterns because of the pressure exerted by a too large artisanal fleet on too few resources, compounded by the use of destructive and illegal fishing practices such as spear-fishing and lobster and conch collecting using scuba diving equipment. Available evidence implies that at least the highly-targeted species such as the lobsters and sandy-bottom demersals have significantly declined together with conches and *Conus* species. Already some fleets have had to change their fishing grounds and go to other islands to fish, increasing the cost factor. Meanwhile, national studies and strategies on fisheries, tourism and wider development project fish catch increases to 17,000 tons/yr (+70%) to satisfy a growing domestic demand and increased exports. All in all, the future of the fisheries in Cape Verde already seems compromised and requires a significant reorientation to remain sustainable.

9. Many of the regularly ongoing maritime and trade activities underpinning the islands' economy – including most of those to be boosted under the emerging Blue Growth Strategy – carry inherent risks to marine resources and biodiversity that could lead to catastrophic impacts. This involves (to a minor degree) the possible deployment of marine renewable energy infrastructures such as underwater turbines and (more importantly) larger shipping accidents in valuable

⁴ Yellowfin Tuna *Thunnus albacores*, Bigeye Tuna *T. obesus*, Little Tunny *Euthynnus alletteratus*, Skipjack Tuna *Katsuwonus pelamis*, Frigate Mackerel *Auxis thazard*, Wahoo *Acanthocybium solandri* and different sharks.

⁵ Mackerel Scad *Decapterus macarellus*, Bigeye Scad *Selar crumenophthalmus*, Blackspot Picarel *Spicara melanurus* and Madeiran Sardinella *Sardinella maderensis*

⁶ www.spcsrp.org/Cap+Vert/Les+peches+au+Cap+Vert

⁷ Pro-poor tourism linkages in Cape Verde, ODI, CPE and World Bank, 2012.

⁸ www.spcsrp.org/Cap+Vert/Etat+des+ressources+au+Cap+Vert

ecosystems, spills of oil products or chemicals, and the arrival of more and more harmful marine IAS (e.g. the Lion Fish who could cause significant ecological and economic damage). Indeed, marine IAS are now considered to be one of the greatest threats to global marine biodiversity and ecosystems, posing a significant threat to coastal economies and public health and food security. The most effective response management to these risks is through *ex ante* prevention, in combination with corrective *ex post* interventions in the case of accidents or IAS arrivals.

10. This means that some activities promoted through the Blue Growth Strategy may not only have impacts on biodiversity, but also in a negative feedback impact the other sectors set to grow – unless appropriate strategies and measures are in place to prevent or reduce such impacts. Such risks could undermine that the objectives of the emerging Blue Growth Strategy.

Root Causes

11. The root causes underlying the risks to biodiversity (and the unsustainable exploitation of living marine resources) are

- Open access to resources by competing local user groups (especially fishermen) who lack awareness and livelihood alternatives and/or are driven by survival needs or short-term gain (Tragedy of the Commons);
- The fact that laws and regulations to ensure sustainability of a number of exploitative and maritime activities are inadequate or altogether missing;
- Insufficient presence, willingness and/or means of state actors to enforce existing laws and regulations;
- Insufficient awareness about the importance of terrestrial and marine BD amongst economic decision makers in non-environment sectors, wherefore environment and biodiversity are afforded little attention in sector planning – including in sectors under the Blue Growth Strategy.

2) The baseline scenario or any associated baseline projects (with co-financing) expected for the anticipated project implementation period (2018-2022)

Baseline

12. The proposed project builds on the following baseline initiatives of the government and key partners.

13. *Blue Growth Strategy*: The Government of Cape Verde (GOCV) with the support from FAO in 2015 prepared and adopted a Blue Growth Charter and is presently working on a Blue Growth Strategy to be implemented over the coming decades. In doing so, it is critical for the GOCV to protect its resources from unregulated or illegal exploitation, and to fully integrate all three pillars of sustainability – which asks *inter alia* for a rational and sustainable management of the archipelago's marine living resources and ecosystems. However, support will be needed to ensure that the blue growth strategy will be truly sustainable, with full integration of biodiversity and ecosystem concerns in various sector development plans and operations under the strategy.

14. *Biodiversity Mainstreaming in Maritime Sectors*: Progress with regard to the integration of the biodiversity dimension into shipping, and ocean based renewable energy sectors and into industrial and development projects is limited. GOCV acceded to key International Maritime Organisation (IMO) conventions (incl. MARPOL⁹, OPRC¹⁰, London C.¹¹, and the Anti-Fouling C.¹²). The General Directorate of the Environment (DGA) of the Ministry of Agriculture and Environment (MAE) has instituted environmental impact assessment (EIA) system. The autonomous Maritime and Ports Agency (AMP¹³), which is in charge of overseeing economic activities in the maritime space and the ports and enforcing related regulations, developed a coastal development plan¹⁴, and a Strategy for Cape Verde Seas which was however never completed and adopted. The total baseline investment provided towards these maritime sector-related activities is estimated to \$6.7 million over the 5-year duration of the project.

⁹ Convention for the Prevention of Pollution from Ships

¹⁰ Convention on Oil Pollution Preparedness, Response, and Co-operation

¹¹ Convention for the Prevention of Marine pollution by Dumping of wastes and other Matter

¹² Convention on the Control of Harmful Anti-fouling Systems on Ships

¹³ Agência Marítima e Portuária

¹⁴ Plano de Ordenamento de Área Costeira Marina.

15. *PA System Management*: With the support of a range of donors including the GEF over the last 15 years, DGA has established a national system of protected areas, comprising 47 terrestrial and marine PAs.¹⁵ The majority of these PAs has been operationalised or is being operationalised by the ongoing DGA/UNDP/GEF *Biodiversity and Tourism* project¹⁶, through individual gazettal decrees, completion of on-site demarcation, the development of management and business plans, and in some cases the provision of basic management teams/activities and infrastructure. In coming years, DGA will consolidate its new PA unit in the capital and maintain a level of funding for PA staff and related activities across the archipelago. The Government through the *Biodiversity and Tourism* project will target the tourism sector specifically to mobilise new revenues for biodiversity conservation and PAs. However further opportunities must be exploited that are linked to the higher levels of government decision-making, of sector spending effectiveness, of generating new incomes from other sectors to better manage existing threats and forestall new threats (IAS, accidents, poor planning). The Coast Guard with its Operational Centre for Maritime Security (COSMAR¹⁷) and the new Competent Authority for Fisheries Products (ACOPESCA¹⁸) are committed to increase their support to MPA monitoring and enforcement using their satellite-based Vessel Monitoring System (VMS). The AMP will provide complementary data from land-based radars especially for the surveillance of smaller coastal boats not captured by VMS, i.e. artisanal and sports fishers.

16. With regard to Santa Luzia NR, in 2015 a new decree reclassified the area into a Natural Reserve and is awaiting operationalisation. A high technology-equipped patrol boat was recently donated by the EU to the PA authorities based in São Vicente, to be used in monitoring. This represents some progress, however the islands are not inhabited and patrols cannot remain on site, compromising the effectiveness of boat patrols that need to travel from São Vicente to arrive in the actual MPA – which at 45,602 ha marine area is also very large for just one boat. BIOSFERA is seeking approval from the MAVA Foundation of a \$2 million project to operationalise the PA, for which the MAFA Foundation is seeking co-financing; this will include direct support to the DGA office in São Vicente for a dedicated 2nd technician in charge of the PA for 3 years. CEPF will fund restoration activities to the height of \$200,000 from 2017.

17. The total baseline investment provided (by DGA, GC/COSMAR, ACOPESCA, AMP, MAVA, CEPF) towards these PA-related activities over the 5-year duration of the project is estimated at \$7 million.

18. *IAS Management*: GOCV's effort on IAS management has been limited and ad hoc to date and has mainly comprised: (i) research and monitoring from academia; (ii) localised biodiversity conservation-related control measures in terrestrial ecosystems; (iii) regular phyto-sanitary inspections of arriving merchandise conducted by circa 10 inspectors across the country covering ports and airports to prevent the arrival of plant diseases and pests, in compliance with the International Plant Protection Convention; (iv) Work on a millipede that arrived decades ago in Santo Antão and has since spread to other islands in the north-western group – the species attacks commercial fruits (but not a biodiversity-harmful IAS as such) wherefore a ban was imposed on the trade of agricultural products from these islands to the rest of Cape Verde. That is, the socio-economic impacts the arrival of exotic species can cause have already been felt. The baseline investment is limited mainly to the continuation of the above activities, in addition to the conduct of a PhD research on marine IAS in Cape Verde at UNCV, and a rats and cats eradication initiative in Santa Luzia NR under the aforementioned BIOSFERA/MAVA intervention. The baseline investment provided towards these IAS-related activities over the 5-year duration of the project is estimated to \$1.5 million.

19. *Sustainable Fisheries*: Cape Verde has made important progress over the last 5-10 years in relation to its fisheries governance, planning and surveillance framework, having benefited from significant resources from a range of donors, including the EU, Luxemburg, the U.S. and GEF (DGRM/World Bank/GEF West Africa Regional Fisheries Programme – Cape Verde PRAOCV-I). The interventions have *inter alia* led to: (i) strengthened technical and institutional capacities and staffing levels of the Directorate General for Marine Resources (DGRM, formerly DG Fisheries); (ii) development of management tools for a selected number of fisheries such as sharks and of new regulations such as the prohibition of shark finning in Cape Verde waters; (iii) development of a National Plan to Combat IUU Fishing, and of a legal framework for IUU infractions by foreign and national boats developed in 2015; (iv) deployment by the Maritime and Ports Agency (AMP) of land-based radar stations on all islands with a reach of 60 miles by the end of 2016; (v) creation under DGRM and operationalisation in mid-2015 of ACOPESCA (35 staff) in charge of enforcing fisheries regulations across all fleets (artisanal, industrial, domestic and international, inside and outside the coastal zone; and (vi) Co-management on Sal and Maio, with some success, with communities structured and trained and making joint enforcement patrols between Community and Government.

¹⁵ This includes 15 Natural Reserves, 6 Integrated Natural Reserves, 10 Natural Parks, 10 Protected Landscapes and 6 Natural Monuments, which together covered 49,897 terrestrial ha and 87,358 marine ha – representing 12.4% and 3.5% of the national terrestrial area and marine territorial waters, respectively.

¹⁶ Mainstreaming biodiversity conservation into the tourism sector in synergy with a further strengthened protected areas system in Cape Verde, GEF # 5524.

¹⁷ Centro Operacional Segurança Marítima under the Cape Verde Coast Guard

¹⁸ Autoridade Competente para os Produtos de Pesca

20. Supported by a new phase of the West Africa Regional Fisheries Programme – Cape Verde (coined PRAOCV-II receiving IDA financing; PRAOCV-I ending in late 2016), DGRM as well as its subordinate agencies such as ACOPECSA will maintain and consolidate their presence on all islands. A new National Fisheries Management Plan for 2016-2020 will be developed. DGRM also plans to fill the legal gap preventing its island fishing inspectors from controlling catches in markets. On the enforcement side, the Coast Guard/COSMAR and ACOPECSA will further consolidate and update their remote surveillance technology. AMP will provide complementary data from land-based radars especially for the surveillance of smaller coastal boats not captured by VMS, i.e. artisanal and sports fishers. On the co-management side, the DGA/UNDP/GEF *Biodiversity and Tourism* project will continue and consolidate the piloting of fisheries and CMPA community co-management in 3 communities on Sal and Maio. More importantly, DGRM/PRAOCV-II will put great emphasis on up-scaling such fisheries co-management to fishing communities across the archipelago – covering in the process all those communities on São Vicente, São Nicolau and Santo Antão accessing the Santa Luzia NR. On the reorientation of fisheries and alternative employment for fishers, the MARPROF-CV will look at potential for new deep-water fisheries resources in Cape Verde, which the DGRM will use in its 2016-2020 National Fisheries Management Plan.

21. The total baseline investment provided (from DGA, DGRM/PRAOCV, ACOPECSA, GC/COSMAR, AMP, FAO, INDP) towards these fisheries-related activities over the 5-year duration of the project is estimated to \$18.7 million.

22. All these activities must be carried out with full integration of biodiversity concerns in both national guidance and site level action. Already the DGA plans to enter into an MOU with DGRM, GC/COSMAR and ACOPECSA to increase synergies and effectiveness, clarify mandates and responsibilities, and catalyse more effective PA surveillance and control of biodiversity impacts of fisheries. However, this work must be strengthened – for instance communities involved in co-management schemes must simultaneously be pursued ensuring that biodiversity benefits are achieved.

Barriers:

Barrier 1: Absence of national frameworks for maritime sector planning and sector threat management

Despite the government's firm commitment to finalise and implement the Blue Growth Strategy, the absence of national frameworks to ensure the sustainability of blue growth could threaten the globally significant marine biodiversity and marine resource base that underpins blue growth. There is an urgent need for ensuring that sector development visions and plans under the Blue Growth Strategy will fully embrace biodiversity conservation and develop necessary regulatory mechanisms for implementation. The environmental mitigation planning system (EIA) overseen by DGA is weak and misses the Strategic Environmental Assessment (SEA) dimension; and it can be over-ridden by economic decision making that may be poorly integrated or informed. Shipping and anchoring sites in the EEZ are not routed and regulated. The GOCV/AMP have not developed the implementation frameworks for the signed IMO conventions. There are no contingency plans and intervention protocols for shipping accidents and oil/chemical spills etc. This is a major concern because Cape Verde provides large-scale refuelling services to oil prospecting support platforms in at least São Vicente, although AMP has started to compile info on available equipment to be mobilised. Furthermore, there is no integrated planning of the marine and coastal space bringing together all the stakeholders to ensure that sector plans and investments are consistent, environmentally sustainable and respect key biodiversity values. Infrastructure and development projects continue to be proposed without considering environmental considerations, such as the building of a massive port to recycle ship fuels from across the Atlantic in the north of Maio – a key protected area on an island long slated for responsible tourism development.

In addition, there are a number of gaps in IAS threat management. The most fundamental is the absence of legal, policy and institutional framework to prevent, control and eradicate IAS. This means that there are no contingency plans and intervention protocols to address the arrival of either terrestrial or marine IAS. There is very limited understanding of IAS and the related risks and response options. Possible synergies with agencies such as AMP and ASA are not utilised. In consequence, the arrival of IAS from outside the country is poorly controlled at the main entry points (3 large ports in Santiago, São Vicente and Sal; 4 international airports in Santiago, São Vicente, Sal and Boavista) – with the exception of the phyto-sanitary controls. Also, too little attention has been paid to the marine dimension of IAS despite the potential impacts on marine ecosystems and resources (and by extension on the Blue Growth Strategy). There are no measures to monitor and control the arrival of marine IAS.

Another important barrier is that community co-management of fisheries is still in its infancy in Cape Verde – with only pilots having been initiated under PRAOCV-I in Maio and Sal aiming for enhanced enforcement of fishery regulations through a community co-management scheme, linked moreover with a tentative community-based CMPA. Only a balanced combination of

bottom-up (community participation and ownership) and top-down (surveillance and enforcement) governance approaches assures success¹⁹. Co-management therefore must be up-scaled to complement the enforcement measures to be rolled out, and vice versa.

Barrier 2: Insufficient capacity for maritime biodiversity conservation and sustainable use at the national level

In spite of the aforementioned baseline actions, a number of key barriers remain with regards to marine biodiversity conservation. Firstly, the management of PAs remains weak and enforcement of rules limited, unless donor-funded projects augment the resources locally available for implementation. The majority of the government budget for PAs goes to staff salaries and little remains available for actual management activities. Enforcement especially in marine PAs tends to be expensive requiring costly heavy equipment. This leads to gaps regarding the mobilisation of new PA finance. With the support from the *Consolidation of PAs* project a National PA Business Plan was drafted in 2012 however work still remains to complete it for formal adoption and implementation. Although a new PA unit was created at DGA, capacity for PA system management and facilitation of greater revenue capture and investment needs to be built which could involve creation of a PA Autonomous Agency. The national PA budget remains low. The currently starting *Biodiversity and Tourism* project will target the tourism sector to mobilise new revenues for BD and PAs – but further opportunities must be exploited that are linked to the higher levels of government decision-making, to spending effectiveness, and to revenue-generation from other sectors. The latter also includes financing independent from PA system budgets, needed to better manage existing sector threats and forestall new threats to biodiversity (e.g. accidents, poor planning, IAS). Insufficient capacity within the PA management unit of DGA and lack of institutionalised training programme for PA management related skills and issues remain a major barrier for conservation in the country.

Barrier 3: Insufficient PA management and enforcement in PA sites of biodiversity significance

Related to barrier 2, critical gaps remain at site level PA management. For instance, Santa Luzia with its satellite islands Branco and Raso with altogether 45,462 marine ha and 3,554 + 1,011 terrestrial ha, has been left aside for a long time due to a conflict around its protection status. After being first designated as a Nature Reserve in 1990 it was reclassified into an Integrated Natural Reserve (INR) in 2003, but the implied notion of no-access proved unacceptable to local fishermen and the government never emplaced management on the site, leaving this critical area and its marine resources exposed to largely uncontrolled exploitation. The PA boundaries and a draft management plan of the former INR were prepared in a highly participatory manner supported by WWF/PRCM/FIBA in 2010 – yet has not been approved to date. There is an urgent need to fully operationalise the conservation area with clear boundaries, updated PA management and business plans and clear governance and conflict resolution mechanisms.

In addition, there is a need for strengthening enforcement of existing regulations. This applies to land-based enforcement (e.g. where island inspectors are legally not allowed to control fish in markets) and to sea-based enforcement of both industrial and artisanal fisheries. A key barrier is the high cost of boat and plane operations, which reduces the frequency of routine sea patrols and of control sorties to only when infractions appear certain or important. COSMAR's combined VMS + VTMS²⁰ system has reduced the risk of foreign vessels anonymously entering CV's EEZ to illegally fish, however concerns remain about the quantity and types of fish taken and reported by licensed national and foreign industrial vessels. At the other end of the spectrum are artisanal fishing boats; these fall through the remote surveillance cracks that focus on the VMS tracking of larger vessels, and only the occasional boat patrol can provide some monitoring. Considering additionally the mostly weak or absent management of coastal and marine PAs, and the lack of awareness amongst fishermen, the coastal zones are therefore still exposed to largely uncontrolled and partly illegal fisheries. Furthermore, even though all boats are licensed and registered now, the problem remains that there are too many artisanal fishermen focusing on the same traditional sites and resources, for too little and precarious revenue. Either fisher numbers are reduced, or fishers must reorient to other fishing types, sites, resources or equipment (e.g. shifting from small coastal boats with low security levels and small crews travelling no further than 5 miles and offering small revenue in artisanal fish, to advanced-artisanal/semi-industrial larger offshore boats with a crew of 15 where captures are much higher per fisherman). A further alternative is a reorientation to other livelihoods.

Barrier 4: Insufficient knowledge management mechanisms for fostering learning

GOCV has adopted Sustainable Development Goals. Marine biodiversity conservation projects like the proposed project contribute directly and significantly to achievement of these goals. However, GOCV has insufficient capacity and experience in capturing environmental and socioeconomic impacts of these interventions in both quantitative and qualitative manners. Such impacts include job creation, gender impact and ecosystem services enhancement, which need to be captured for mainstreaming biodiversity conservation in the blue growth agenda and for increasing investments in conservation. Moreover, many different projects, organizations and platforms are gaining experience in marine biodiversity management and mainstreaming in marine sectors. However, in many cases, lessons and best practices to achieve mainstreaming and marine PA strengthening, including co-management and sustainable community based fishery practices are not effectively captured and/or are not effectively shared and disseminated. The fact that this knowledge is not always accessible translates into opportunities lost for learning and undermines replication and up-scaling, thus reducing impact. There is a need for greater understanding on which interventions or suites of

¹⁹ Jones, PJS, Qiu W, and De Santo EM (2011): Governing Marine Protected Areas - Getting the Balance Right. Technical Report, United Nations Environment Programme.

²⁰ Vessel Traffic Management System

interventions work and which are less effective at reducing threats to marine biodiversity, so that models can be developed and shared among practitioners and countries.

3) Proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project

23. To address the above-mentioned challenges, root causes and barriers in conjunction with the baseline scenario interventions, the project will work on the integrated components outlined in the following. It should be emphasised that the governance system in Cape Verde is mature enough to take ownership of the strategies and frameworks to be developed by the project and guarantee their post-project sustainability. Government agencies are staffed with well trained professionals who readily embrace sustainability considerations.

Component 1: National frameworks for maritime sector planning and threat management

24. This Component will deliver the following three Outcomes:

- 1.1 Direct adverse impacts on marine biodiversity from key maritime sectors are prevented or reduced in at least the national coastal zone of 1,000,000 ha.
- 1.2 Initial IAS prevention and management framework emplaced.
- 1.3 Maritime sector strategies and investments aligned with Integrated Marine Spatial Plan. Indicator: operationalised mandatory sector standards and process that safeguard biodiversity.

25. To achieve this, the project will under this Component first of all ensure that biodiversity and environmental sustainability considerations are mainstreamed within the sector development visions and plans outlined in the Blue Growth Strategy. The latter include most notably aquaculture; artisanal, industrial and sports fisheries; energy generation; port construction and related industrial developments; and maritime traffic. In the process the necessary mandatory standards and processes will be established for operationalisation of these sector plans. The project will then also set up, staff and operationalise a GIS-based Integrated Marine Spatial Planning (ISMP) platform to provide a centralised planning and decision-making support to these sectors and the Blue Growth undertaking more widely. Involving a cross-sector platform already established under the Blue Growth initiative, the project will then develop and over the project's lifetime secure adoption by relevant sectors of an Integrated Marine Spatial Plan (IMSP) that embraces long-term environmental, social and economic sustainability. This will be accompanied by the emplacement of IMSP monitoring and compliance mechanisms, and the strengthening of units in DGA in charge Environmental Impacts Assessment (EIA) and Strategic Environmental Assessment (SEA, to be created under the Biodiversity and Tourism project specifically for tourism).

26. The project will develop a first national IAS prevention and management framework for Cape Verde. This will entail an assessment of IAS pathways and vectors, as well as the development and adoption of a national IAS strategy and of the related legal and regulatory IAS framework. In the process, the project will also catalyse the ratification of the IMO Ballast Water Convention²¹ and establish the related national framework.

27. In a similar vein, the project will moreover support the GOCV and AMP (using national resources and with technical assistance from the IMO, as well as with potential IMO co-financing to be explored during the PPG phase) to establish the national enabling frameworks towards a number of important International Maritime Organisation conventions that the GOCV signed but has not yet implemented nationally. This includes MARPOL, OPRC, the London Convention and the Anti-Fouling Convention. This will entail the preparation and adoption of legal and regulatory frameworks, as well as the preparation of a national early warning system and of intervention protocols for maritime accidents and oil/ chemicals spills.

28. To ensure that biodiversity considerations are fully integrated in the nation-wide up-scaling of community co-management of fisheries, the project will engage DGRM and PRAOCV-II providing regular reviews and technical benchmarking at central levels, such as on the ecosystem approach in fisheries, on vulnerable and priority species and ecosystems and on biodiversity-friendly fishing gear and practices. In the process the project will conduct a feasibility assessment of a nation-wide marine certification of fisheries products (MSC), looking inter alia at acceptability and market opportunities. This work on fisheries is a key element under the Blue Growth initiative because it aims to secure sustainable employment in the sector. It should therefore at the same time support assessments regarding options for

²¹ International Convention for the Control and Management of Ships' Ballast Water and Sediments

growing fisheries in Cape Verde, and for reorienting artisanal fishers to other fishing types, sites, resources or equipment – ensuring that growth and any fishing reorientation remain ecologically and economically sustainable and in line with biodiversity priorities.

29. To underpin the above activities, the project will provide a range of trainings on environmental / biodiversity matters to key central government units relevant to Blue Growth and IMSP (DGRM, MEE, MOF, AMP, ASA, ACOPECA, CC/COSMAR, etc.). The trainings will *inter alia* cover marine spatial planning, maritime conventions, IAS prevention and management, MPA and fisheries enforcement, and co-management and certification.

Component 2: Capacity for marine biodiversity conservation and sustainable use

30. This Component will deliver the following two Outcomes:

- 2.1 Human and institutional capacity of DGA PA unit and key NGOs increased.
- 2.2 Finance for marine biodiversity/PAs increased.

31. To achieve this, the project will under this Component emplace a training programme within DGA for enhancing institutional and staff capacity of the new PA management unit on marine PA management, enforcement and financing; the training programme will be institutionalised in DGA. Similar trainings will be extended also to relevant officers in MAE island delegations and local conservation NGOs working in the Santa Luzia area.

32. Moreover, the project will update and operationalise the PA System Financing Strategy and Plan. This will entail the implementation of traditional PA finance elements but also more advanced innovative elements, and involve an identification of management needs, the establishment of a PA finance database, a rigorous PA finance needs and gap assessment, a Biodiversity Public Expenditure Review (PER) to determine financing baselines and identify opportunities to realign budgets and enhance spending effectiveness and efficiency, an assessment of options for new sustainable revenue-generating mechanisms for biodiversity/PAs, and eventually the adoption and operationalisation of key recommendations emerging from the PER and the financing mechanisms assessment. For the activities under this Output, the project is called to refer to guidance and materials developed under UNDP's Biodiversity Finance Initiative²².

Component 3: Conservation of biodiversity and marine resources in Santa Luzia-Branco-Raso NR

33. The uninhabited islands included in the NR are exceptionally important for nature conservation both at national and international level, being Priority Key Biodiversity Areas documented in the CEPF hotspot profile for the Mediterranean Basin, because they are highly threatened and biodiversity-rich islands, with several endemic and highly threatened taxa. The islands are one of the major sites for breeding seabirds in the Cape Verde, holding the main breeding population of *Calonectris (diomedea) edwardsii*, significant numbers of *Puffinus (assimilis) boydi* and *Oceanodroma castro*, and colonies of *Pelagodroma marina*, *Bulweria bulwerii*, *Sula leucogaster* and *Phaethon aethereus*. The endemic giant gecko *Tarentola gigas* is still present in good numbers. Threats to terrestrial species stem mainly from the declining capture of seabirds and trampling of burrows, as well as most particularly the predation by rats and feral cats that have decimated populations and led to global extinctions – population numbers being only a shadow of those recorded 100 years ago. Raso is home to the single-island endemic and Critically Endangered Raso Lark *Alauda razae* of which only c. 45 pairs remain. The herpetofauna includes Stanger's Skink *Chiononia stangeri* NT, Cape Verde Leaf-toed Gecko *Hemidactylus bouvieri razoensis* CR, Giant Wall Gecko *Tarentola gigas brancoensis*, Raso Gecko *Tarentola raziana* NT; of which all four are endemic to Cape Verde, with two and one subspecies endemic to the NR. A remote hope remains that the officially extinct Cape Verde Giant Skink *Chioninia coctei* that was endemic to the NR, still survives in some remote corner of Branco or Santa Luzia. For Santa Luzia the presence and activities of NGOs (BIOSFERA, and WWF in the past) have been critical to monitor the threats and biodiversity and reduce threats. For instance, CEPF supported BIOSFERA studies on key biodiversity in the area and the development of a restoration plan for terrestrial species²³.

34. This Component will deliver the following two Outcomes:

- 3.1 Improved local conservation status of marine resources and endemic and globally threatened species and key habitats, through full operationalisation of the Santa Luzia/ Branco/ Raso Natural Reserve (45,462 marine ha and 4,065 terrestrial ha).

²² www.biodiversityfinance.net

²³ Geraldes, P & T. Melo 2016. The Restoration of Santa Luzia, Republic of Cabo Verde, Terrestrial reptile monitoring report 2013-2015. Protecting Threatened and Endemic Species in Cape Verde: A Major Island Restoration Project (CEPF). – Sociedade Portuguesa para o Estudo das Aves.

- 3.2 Reduction of adverse biodiversity impacts from artisanal fisheries across at least the 45,462 ha of MPA, through the adoption of biodiversity-friendly fishing practices and gear by at least 50% of fishermen in the surrounding fishing communities.

35. To achieve this, the project will under this Component fully operationalise Santa Luzia-Raso-Branco Natural Reserve, as an extension of the systemic work taking place on blue growth mainstreaming, integrated marine spatial planning and enhanced management of marine resources. This will entail final delimitation and gazettement of the NR and on-site demarcation of boundaries, and an update and approval of PA management and business plans. It will also include the definition of governance and conflict resolution mechanisms and of regulations, management and enforcement of the use of natural resources by nearby communities. And it will facilitate better management and servicing of tourism flows to islands to which visits are allowed. The operationalisation of the management of the NR will be complemented with work on the management of artisanal fisheries focusing on the communities using Santa Luzia NR from São Vicente, São Nicolau and Santo Antão. It will entail negotiating and entering sustainable fisheries co-management agreements that respect PA laws, the provision of capacity training and extension services with PRAOCV-II to these communities, and the introduction and promotion of biodiversity-friendly and sustainable fishing adopted (best practices and gear, designation of PA no-take zones and seasonal fishing bans, etc.). The project will also make available micro-grants for sustainable alternative livelihoods and professional training to a number of selected artisanal fishermen in critical high-impact communities interested in professional reorientation (e.g. to become certified as mariners, at a cost of \$2000 per trainee).

36. The project will in parallel pilot a scientific monitoring and in-situ surveillance tool new for Cape Verde: the project will acquire and test a small number of drones²⁴ (1-3 to start) as a means for cost-effective fisheries and PA management of Santa Luzia NR, and in the case of success emplace this system and establish and train an initial small drones operations and maintenance team. Throughout the project will report back on community reactions, practicality, effectiveness, challenges, etc. to inform adaptive management in Santa Luzia NR. Successful piloting of drones by the project in Santa Luzia, if successful, could be up-scaling to other areas in the archipelago exposed to illegal marine resource exploitation yet too remote for easy land based surveillance.

Component 4: M&E, Learning and Knowledge Management

37. This Component will deliver the following four Outcomes:

- 4.1 M&E of socioeconomic and environmental/ ecological impacts in the targeted region and project sites tracked.
- 4.2 Adaptive project management reflects M&E recommendations.
- 4.3 Best practices and case studies from project codified and disseminated nationally and internationally.
- 4.4 Newly developed government endeavours on marine biodiversity management reflect and integrate results, learning and benchmarking from relevant prior work in Cape Verde and beyond.

38. To achieve this, the project will develop a project-specific M&E/MRV framework to fully and regularly assess quantitative and qualitative environmental and socio-economic impacts of all interventions. This includes a scientifically rigorous marine resource and biodiversity monitoring emplaced with local NGOs and academia (BIOSFERA, INDP, UNCV) on the basis of agreed protocols and in selected sample points, responding to project indicators, to show that the targeted natural reserve works for biodiversity and livelihoods (artisanal and sports fishers) alike. The project will under this Component also develop selected learning and knowledge management products. This will entail products relating to the project itself to capture its results and lessons, but equally a critical review of relevant past work on biodiversity management (through protected areas, sector mainstreaming, research, etc.) in Cape Verde to help address the poor transmission of information between projects and enhance cross-project learning at various levels and foster replication. With the same aims in mind the project will i) create a biodiversity Clearing House Mechanism and populate it to international standard as a publicly accessible repository for relevant information; and ii) organise regular (e.g. quarterly) dissemination and training events on marine and terrestrial biodiversity management convened by DGA for relevant project and government staff from key sectors (e.g. those leading and involved in the Blue Growth Strategy) on past, ongoing and proposed work in Cape Verde and related international benchmarking. The Mid-term Review and Terminal

²⁴ Drones are being piloted in a few places as a cost-effective means to gather scientific data and monitor fishing, tourism and other activities, see e.g. <http://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/6334/Wildlife-Conservation-Society-Helps-Safeguard-Belizes-Barrier-Reef-With-Conservation-Drones.aspx>

Evaluation will be conducted and include beneficiary surveys to verify cost savings, job creation benefits and other socio-economic including gender impacts of all interventions supported.

39. Please refer to §65 for complementary details on the project's approach to M&E and KM.

Contribution to the GEF strategic objectives and focal areas

40. The project with its four components will contribute to three of the four objectives and three of the ten programmes of GEF-6, namely BD 1: *Improve Sustainability of Protected Area Systems*, Programme 1: *Improving Financial Sustainability and Effective Management of the National Ecological Infrastructure*; BD 2: *Reduce Threats to Globally Significant Biodiversity*, Programme 4: *Prevention, Control, and Management of Invasive Alien Species*; and BD 4: *Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors*, Programme 9: *Managing the Human-Biodiversity Interface*. While the different work streams are strongly interwoven in as far as that e.g. work on IAS prevention (Programme 4) will ultimately benefit the biodiversity present outside PAs in a similar manner as inside PAs (Programme 1), and mainstreaming biodiversity into marine sector planning (Programme 9) will help efforts to prevent IAS prevention, the following stresses which activities/outputs/components will contribute most strongly to each of the above three GEF-6 BD Programmes:

41. BD 1: *Improve Sustainability of Protected Area Systems*, Programme 1: *Improving Financial Sustainability and Effective Management of the National Ecological Infrastructure*. Component 1 of the project will contribute to this programme more in an indirect way through the development and adoption of an Integrated Marine Spatial Plan (IMSP) and the setup and operationalisation of the related MSP platform. The same applies to the M&E and KM activities under Component 4, which will support the present project and raise the benchmark for parallel and subsequent efforts in managing Cape Verde's marine biodiversity in a general manner, but not lead to targeted improvements in PAs *per se*. In contrast the work under Components 2 and 3 will directly work towards Programme 1, and aligns with the GEF-6 biodiversity strategy where it states that “*GEF support under this objective will strengthen ... fundamental aspects of protected area system sustainability: finance, representation, and capacity building leading to effective management. GEF will continue to promote the participation and capacity building of ... local communities, especially women, in the design, implementation, and management of protected area projects through established frameworks such as indigenous and community conserved areas.* To provide further detail:

- Work under Component 2 of the project will enhance the systemic capacity of the country's PA management authority at national and island levels (Outcome 2.1/Output 2.1). In addition, and more importantly, Component 2 will assess and enhance the financing framework for the national PA system and determine and close the financing gap (Outcome 2.2/Output 2.2). In doing so it will build on the GEF-5 project aimed at mainstreaming biodiversity into tourism (GEF # 5524), which also has PA finance outcomes focused on that sector. The project is hence fully in line with the GEF-6 biodiversity strategy where it states that it “*prioritizes the development and implementation of comprehensive, system-level financing solutions. Previous GEF projects have too often been focused on business plans and strategy development, with minimal project resources or time dedicated to actual implementation of the financing strategies. In addition, experience in the portfolio since GEF-4 has demonstrated the need for a long-term plan for reducing the funding gap for protected area management, thus, individual GEF projects must be part of a larger sustainable finance plan and context, and countries may require a sequence of GEF project support over a number of GEF phases..... GEF-supported interventions will use tools and revenue mechanisms that are responsive to specific country situations (e.g., conservation trust funds, systems of payments for environmental services, debt-for-nature swaps, economic valuation of protected area goods and services, access and benefit sharing agreements, etc.) and draw on accepted practices developed by GEF and others*”.
- Work under Component 3 (all Outcomes/Outputs) of the project will contribute through its focus on strengthening the management of the Santa Luzia/ Branco/ Raso Natural Reserve, a critically important PA in which stronger interventions are long overdue and which complies with key international criteria demonstrating global biodiversity significance. This work is aligned with the GEF-6 biodiversity strategy where it states that “*support to improving protected area financial sustainability and effective management will be explicitly directed towards globally significant protected areas within the national system.... Projects will identify the protected areas to which increased funding will be directed to improve management as a result of the GEF investment while recognizing that a proportion of any revenue increase will be absorbed by system-level administration and management costs.*”

42. BD 2: *Reduce Threats to Globally Significant Biodiversity*, Programme 4: *Prevention, Control, and Management of Invasive Alien Species*. The project will work towards this Programme under Component 1 – particularly under Outcomes 1.2 and Output 1.4 (national IAS prevention framework) but also through Output 1.1 (avoidance of IAS in aquaculture) and Output 1.6 (capacity development including on IAS prevention). This is fully in line with the GEF-6 biodiversity strategy where it states that “*this program will focus on island ecosystems. ... The focus also responds to the opportunity offered by the stronger interest to advance IAS management on the part of island states and countries with island archipelagos, and the opportunity that island ecosystems provide to demonstrate success in addressing the problem of IAS. Such success may in turn generate greater attention and interest in the comprehensive pathways management approach being promoted under this program. GEF will support the implementation of comprehensive prevention, early detection, control and management frameworks that emphasize a risk management approach by focusing on the highest risk invasion pathways*”. Work on M&E and KM under Component 4 will support achievements under this Programme 4.

43. BD 4: *Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors*, Programme 9: *Managing the Human-Biodiversity Interface*. The project will work towards this Programme under Component 1 – particularly under Outcomes 1.1 and 1.3 and all Outputs except 1.4 (which is focused on IAS), which propose significant mainstreaming progress for marine biodiversity through the formulation and adoption of a Marine Spatial Plan that involves all key sectors, the adoption and early implementation of pending MARPOL conventions, etc. These are fully in line with the GEF-6 biodiversity strategy where it states that “*GEF has for the past decade worked to embed biodiversity conservation and sustainability objectives in the management of wider production landscapes and seascapes through support to an array of policies, strategies, and practices that engage key public and private sector actors in order to conserve and sustainably use biodiversity. This process, referred to as “biodiversity mainstreaming”, has focused primarily on the following suite of activities: a) developing policy and regulatory frameworks that remove perverse subsidies and provide incentives for biodiversity-friendly land and resource use that remains productive but that does not degrade biodiversity; b) spatial and land-use planning to ensure that land and resource use is appropriately situated to maximize production without undermining or degrading biodiversity; c) improving and changing production practices to be more biodiversity friendly with a focus on sectors that have significant biodiversity impacts (agriculture, forestry, fisheries, tourism, extractives); GEF will continue to support these activities during GEF-6 but with a renewed emphasis on ensuring that interventions are spatially targeted and thematically relevant to conserving or sustainably using globally significant biodiversity. Through more careful targeting, support under this program can better deliver multiple conservation outcomes: sustaining biodiversity in the production landscape and seascape which will simultaneously secure the ecological integrity and sustainability of protected area systems.*”

4 & 5) Global environmental benefits and incremental/additional cost reasoning with expected contributions from the baseline, the GEF-TF and co-financing

Global Environmental Benefits and incremental/additional cost reasoning

44. GEF-6 funding for this biodiversity focal-area project will help Cape Verde meet several outstanding international commitments, and contribute in an incremental manner to addressing the above-described challenges, root causes and barriers, and generate multiple global and local environmental and socio-economic benefits, as follows:

Baseline / BAU Scenario	Alternative Scenario	Global Environmental Benefits
Under the baseline/BAU scenario, Cape Verde’s emerging Blue Growth Strategy and its subsequent implementation will push for the growth of maritime sectors, with some references to environmental sustainability but without giving biodiversity especially its due attention. The concerned sectors are especially shipping, ports construction and operations, coastal/marine industrial development, marine energy, aquaculture, fisheries and tourism. Most of these sectors will see Blue Growth mainly as a business as usual economic growth agenda (except fisheries where much progress has been made, and tourism addressed by another project) and will not be incentivised to integrate sustainability and biodiversity conservation into their planning and operations. The threats from these sectors on biodiversity will hence not be reduced. Shipping will not be organised along maritime corridors and there will be no framework reducing the risks of accidents and no intervention protocols and measures to manage impacts in the case of environmental disasters such as oil/chemicals spills. While the Blue Growth initiative will promote some cross-sector exchanges e.g. through the already-	With the project, Cape Verde will help the GOCV define and achieve a truly sustainable and biodiversity-friendly Blue Growth and develop and implement innovative enabling frameworks for reducing the impacts of the concerned maritime sectors. This will happen through the development and adoption of an Integrated Marine Spatial Plan and a related implementation, monitoring and compliance platforms, in order to define and achieve a sustainable use of the marine space across the country’s EEZ. The project will develop national implementation frameworks for IAS prevention and	Cape Verde’s still relatively healthy marine environment and biodiversity are the source of its abundant fisheries resources, and are important national assets for the tourism industry and many maritime sectors, covered by the Blue Growth Strategy. The project’s GEB derive from the fact that it addresses key threats to globally significant biodiversity –by managing existing threats and by preventing or reducing the impacts from potential future

<p>established Strategic Intelligence Unit, there will be no spatially explicit GIS-based planning tool to inform cross-sector decision-making. Furthermore, apart from the phyto-sanitary controls in ports and airports by AMP and ASA, Cape Verde will remain without a dedicated framework to prevent the arrival and establishment of IAS – even though the island archipelago like most SIDS is highly vulnerable to IAS.</p> <p>Aquaculture will continue to be considered a low impact sector able to freely deploy infrastructures in an open marine space and there will be little if any awareness of the impacts on biodiversity from a poor selection of sites and species and operations. Fisheries will grow and possibly also become more sustainable in terms of resource exploitation given the significant complementary investments in surveillance and community co-management, and the efforts to reorient fisheries to new species, sites and techniques. The growth of fisheries is however nevertheless bound to lead to increased pressures on and collateral damage to especially marine biodiversity if new sites and techniques are introduced and opened to exploitation. And the notion of biodiversity-friendly fishing practices and gear may not be mainstreamed throughout the sector's growth. In situ surveillance of fisheries (and PAs) will at the same time remain limited to traditional boat and plane patrols, which are highly costly and will remain focused on large vessels. In situ surveillance of the more numerous smaller artisanal boats will remain patchy.</p> <p>Under the baseline scenario, the important KBA Santa Luzia NR will either not become fully operationalised at all (if funds matching the prospective MAVA grant cannot be found), or it will become partly operationalised through the NGO BIOSFERA who will focus much on IAS eradication. In this context, the DGA PA, EIA and SEA units will not be further strengthened on MPA management and marine sector engagement, and there will be no biodiversity/PA finance database to provide a better understanding of biodiversity finance flows and needs. There will equally be no new finance mechanisms beyond domestic allocations, international project income and any income generated from new financing mechanisms through the tourism project. This will leave opportunities underdeveloped to realign existing budgets and use them more effectively, which can be an easier way to mobilise new resources for BD than through direct request for more domestic allocations.</p> <p>Lastly, without the project there will be no new contribution to global knowledge on marine spatial planning and maritime sector mainstreaming.</p>	<p>for a range of IMO conventions including on ship based pollution and ballast waters. It will moreover work to integrate biodiversity considerations into fisheries planning and the up-scaling community co-management across the country. The project will capacitate the sector stakeholders involved in sector planning on marine sustainability issues and marine biodiversity and the DGA on PA management, EIA and SEA. It will also build a more robust basis for biodiversity/PA finance planning by creating a database and conducting a BD-PER to identify opportunities for realignment effectiveness and new financing mechanisms. The project will moreover enable the GOCV to work – together with BIOSFERA – on a more substantial operationalisation of Santa Luzia NR. To seek a new more cost-effective solution for in-situ PA and fisheries surveillance, as a useful complement to remote surveillance essential in the enforcement chain especially in coastal waters, the project will pilot the use of drones. The project will also through micro-grants and SGP support help reorient high impact fishing communities to either other fisheries or to alternative livelihoods. Lastly, this highly innovative and complex project will benefit from a dedicated M&E and KW component which will allow an especially robust monitoring of the impacts of the project's interventions, on biodiversity, fisheries, and key socio-economic and gender indicators</p>	<p>threats. Cape Verde is part of the Mediterranean Biodiversity Hotspot. It has exceptional levels of biodiversity including many endemic and globally threatened species, and was recently identified as a global coral hotspot. The mainstreaming of biodiversity into the diverse maritime sectors tackled by the project will reduce the adverse impacts on marine biodiversity in at least the national coastal zone of 1,000,000 ha. It will reduce the number of arrivals and the establishment of IAS that could have catastrophic impacts on the country's biodiversity – terrestrial but especially marine as it is almost impossible to eradicate marine IAS. The operationalisation of the Santa Luzia/ Branco/ Raso Natural Reserve will improve the conservation status of endemic and globally threatened species and key habitats across 45,462 marine ha and 4,065 terrestrial ha. This will benefit the numerous globally important species in this priority Key Biodiversity Area as detailed in this PIF.</p>
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45. The project will contribute towards the achievement of a number of the CBD Aichi Targets: Targets 2 and 5, by ensuring that, in Cape Verde, overall economic development plans and their implementation especially where linked to the Blue Growth/Economy Strategy better integrate biodiversity concerns, most notably through the development and implementation of a marine spatial planning framework and an IAS framework reducing critical threats to the marine environment throughout the country; Target 6 by maintaining sustainability and biodiversity concerns during the planned significant upscaling of co-management in coastal and offshore fisheries, by avoiding overfishing by better enforcement of existing marine resource management plans, and by reducing adverse impacts on threatened species and vulnerable ecosystems; and Target 11 by eventually operationalising in conjunction the arguably most important coastal and marine PA in Cape Verde.

6) Innovation, sustainability and potential for scaling up

46. This ambitious project provides innovation and potential for up-scaling – and potentially transformation – on various fronts. (Integrated) Marine Spatial Planning is a tool that only came to prominence over the last 15 years and is new to Cape Verde. It has not been applied to many countries in Africa (if any). Using it to inform developments under the Blue Growth initiative with regard to environmental sustainability adds another innovation factor. Developing a national IAS framework introduces a better cohesive management of these threats to Cape Verde, as does also the work on maritime sector threat management. The national implementation framework for a range of IMO conventions,

especially in the context of IMSP is expected to lead to significant changes in how the marine space and environment are used in Cape Verde, with a reduced risk of disasters.

47. While the community co-management of fisheries cannot be considered innovation anymore in Cape Verde, the integration of biodiversity concerns into a national-level up-scaling of the co-management approach can however be called innovative. The project's next innovation lies in the proposed use of drones for marine PA and fisheries surveillance – a new technique that is only being rolled out in a few countries globally and holds the promise of much improved and cost-effective enforcement. If successful, the use of drones could be up-scaled to many other areas and environmental monitoring purposes, in Cape Verde and beyond. Sustainability of interventions rests on the up-scaling of co-management and the integration of biodiversity elements into these, whose inherent objective it is to secure ownership and participation by communities in management to reduce costs and enhance sustainability. Linking PA and fisheries management and the respective agencies in charge also contributes to sustainability for biodiversity because the fisheries sector has traditionally had more resources and equipments, and is at the same time intrinsically interested in the sustainability of at least the coastal fisheries given their importance for food security and livelihoods. The DGA and PA system are also expected to benefit from enhanced flows of financial resources for (marine) biodiversity, an important project legacy.

2. *Stakeholders*. Will project design include the participation of relevant stakeholders from [civil society organizations](#) (yes ☒ /no ☐) and [indigenous peoples](#) (yes ☐ /no ☒)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

48. The project will be executed by the Ministry of Agriculture and Environment and its General Directorate for Environment, in close collaboration with the General Directorate Marine Resources now placed under the Ministry of Economy and Employment. Their role is to function as the national entity designated by UNDP to assume responsibility for delivering on the project objective and outcomes, and the entity accountable to UNDP for the use of funds. Given the multi-sector nature of the project an important number and diversity of other stakeholders will be involved in project design and implementation (for details please see Annex 3).

49. NGOs and community associations will play an important complementary role in the project. Several NGOs in Cape Verde are well capacitated and important defendants of the national biodiversity and environment. The majority are organized under a national platform and several environmental projects are being coordinated directly or indirectly by NGOs. They will contribute to defining advocacy and communication strategy, identifying priority intervention strategies, and evaluating the impact of project interventions. They will be an important support in terms of awareness raising and community engagement, and to identify potential long-term alternatives to the current situation. The NGO BIOSFERA has long played a lead role in safeguarding Santa Luzia NR and will be a project partner receiving funding from CEPF and the MAVA Foundation and involved in PA management, restoration and monitoring. BIOSFERA and likely also Associação Amigos do Calhau will be involved from the PPG stage onwards regarding Santa Luzia NR. Fishermen communities / associations accessing Santa Luzia NR from São Vicente (150+ fishermen), São Nicolau (20), and Santo Antão (?) will be involved in various manners in the project: they will be involved in the management of Santa Luzia NR, will be represented in PA management committees, and will be deeply involved in the design, negotiation and implementation of fishery co-management arrangements and related community investments. And they are set to benefit from extension services about more biodiversity-friendly fishing gear/ practices. All these NGOs will benefit from capacity development related to the marine sustainability dimensions covered by the project. In addition a number of yet unidentified local stakeholders will benefit from a micro-grants programme under the project and from Small Grants Programme (SGP) interventions because it is expected that in the GEF-6 cycle a good alignment will be achieved between the FSPs and SGP.

3. *Gender Equality and Women's Empowerment*. Are issues on [gender equality](#) and women's empowerment taken into account? (yes ☒ /no ☐). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

50. Gender-based disparities in Cape Verde include access to resources, social protection and participation in development. Gender-based disparities are all the more important given the proportion of female-headed households. Overall, in 2010, 48 per cent of households were headed by women and 56 per cent of poor families were headed by women. In general, women are undoubtedly the primary caregivers and more often than not the sole providers for a majority of the country's children. According to the Time Use survey conducted in 2012, the sexual division of labor and the public policies in place continue shifting most of the burden of unpaid work to women, especially the poorest. As

regards the political participation of women progress remains modest. Only 23 per cent of deputies in National Assembly are women while at the municipal level women occupy about one fifth of elected positions. More specifically, gender-based violence is also a significant and increasing concern. More specifically, gender-based violence is also a significant and increasing concern. Illiteracy is higher among women than men (17 per cent for women and 9 percent for men) and the disparities are more visible in rural areas. Unemployment rate is higher in men than women but the percentage of women in the informal sector is high at about 59%. In 2014, women provided 26% of agricultural labour, not counting unpaid work (transport of water and fuel wood, etc.). The disparities in the environmental sector are estimated to be 23%. Although the percentage of women at community base associations is significant, their participation at decision making bodies is weak. Decisions at community level development planning are often made without taking into consideration their specific needs. In 2012, only 11% of surveyed community based associations were chaired by women.

51. Project preparation will ensure that gender consideration becomes an integral part of the proposed project strategy through a comprehensive gender assessment and development of a gender mainstreaming plan for the implementation phases. During the project inception the mandatory UNDP gender marking will be applied. This requires that each project in UNDP's ATLAS system be rated for gender relevance. This will for example include a brief analysis of how the project plans to achieve its environmental objective by addressing the differences in the roles and needs of women and men. Furthermore, gender marking implies the production of the following data by the project's year 2 and by its end: i) Number of full-time project staff that are women/men; ii) Number of Project Board members that are women/men; iii) Number of jobs created by the project that are held by women/men. In order to ensure equality, these criteria will be integrated into the project planning. The project will in addition assess how its interventions in the fishing communities have benefitted the lives of local women. Fishing is primarily done by men, however onshore activities (cleaning, selling, etc.) are often the chore of women.

4. *Risks.* Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

52. Risks that might prevent the project objectives from being achieved are identified on a preliminary basis and will be further developed during project design. Project potential risks and mitigation measures are described in the following table:

Potential risks	Category	Risk mitigation measures
Strategies, programmes and investments by national and foreign entities of the maritime economic sectors disregard sustainability and biodiversity considerations because of the immediate need for employment and government revenue and because of opportunities for private financial gain	L-M and M-H	With regard to the fisheries sector, the risk is Low to Medium, given that there is already a fairly advanced governance framework in place for sustainability, and it is expected to become even stronger soon. DGRM is capacitated on sustainability issues, even if there is space for further training. Close collaboration with the Ministry of Economy / DGRM under the Blue Growth and PRAOCV-II projects, and the involvement of the Blue Growth cross-sector committee in the definition of the Integrated Marine Spatial Plan will mitigate these risks. The notion of biodiversity needs special attention and guidance that will be provided by the project together with DGA. With regard to other maritime sectors, the risk is rated Medium to High, because the level of awareness about sustainability is much smaller in comparison. Mainstreaming environmental sustainability and biodiversity into the Blue Growth Strategy and complementing this with an Integrated Marine Spatial Plan and related support platform appears an effective shortcut to improving this situation. This will be complemented by the strengthening of the impact mitigation framework (the EIA/SEA unit) at DGA to mitigate these risks.
The national frameworks developed by the project on IAS and the IMO conventions will not be implemented	L-M	The emergence of the Blue Growth Strategy provides a very opportune moment to mainstream sustainability and biodiversity into maritime sector development and operations through the here-proposed incremental intervention by the GEF, and this opportunity should not be missed. The governance system of the country is advanced and the maritime agencies all expressed their interest in developing these frameworks to trigger their national application. Also the involved agencies involved, most notably AMP/ASA, are in a good position to secure the required national budgets.
Local fishing communities resist changes and are not able and willing to engage	M	The partner project DGRM/PRAOCV-II will dedicate great attention to the national up-scaling of co-management scheme working with local fishing communities, which have already given some success in the pilots conducted in the country. The

in effective co-management, or to adopt sustainable and biodiversity-friendly fishing practices		biodiversity and PA elements must be strengthened – which will be provided by project technical assistance. The project will moreover engage local communities in livelihood opportunities activities and at the same time step up monitoring and surveillance in line with the best practice recommendation that ask for a balanced combination of top-down and bottom-up elements to fisheries and PA governance.
Conflict between stakeholder groups emerges.	M	Stakeholder engagement and consultation will underpin project preparation and implementation. Formal MoUs will be used to define roles and responsibilities. Steering committees and other stakeholder groups will receive training as required on governance and conflict resolution. Project activities are designed in a way that encourages cooperation. Data dissemination and sharing procedures will be established that are mutually beneficial for all concerned.
The deployment of drones causes irritations in local communities	M-H	The drones will be introduced to fishing communities together with or by the DGRM/PRAOCV-II project whose primary focus is on fisheries, increasing acceptance of the monitoring tool, and explaining that good surveillance is in the interest of target communities under the co-management scheme. Guidance will be sought from global experts on how the issue was managed in other pilots and related best practices.
Piloting of drones fails because of inappropriate equipment purchase, operation or maintenance	L-M	State of the art advice on these aspects will be secured from global pilots and lead technical and technology deployment experts, such as WCS, Soar Ocean ²⁵ and the Belize Government, including through on site visits. A site visit to Belize or a similar and successful pilot should be envisaged. The UNDP-GEF RTA will also be consulted in the process to provide additional input and benchmarking.
Drones cause problems with military, or with other forms of illegal transiting of the Cape Verde marine space	L	Consultations were already held with the Cape Verde Coast Guard and its remote surveillance sub-agency COSMAR (as well as with DGRM and ACOPECSA) and al expressed interest in the proposed piloting of drones, as it could provide a cost-effective in situ monitoring tool. This risk is hence considered negligible.
Long-term changes in climate will exacerbate or present additional and unforeseen challenges for marine biodiversity in Cape Verde and the targeted PAs in particular	L	The objective of the project is to support biodiversity conservation efforts and alleviate current and future threats and pressure, including those from climate change. The project will climate-proof its activities ex ante and adopt adaptive management approaches as required (e.g. in the Santa Luzia PA management plan). The reduction of multiple threats on marine biodiversity is considered the best possible approach to increase ecosystem resilience to climate change, which lies at the heart of the project. Little else can be done to mitigate this risk.

5. *Coordination.* Outline the coordination with other relevant GEF-financed and other initiatives.

53. The here-proposed project builds on and/or will coordinate during project preparation and implementation with the following projects:

54. The project will work closely together with the FAO-supported Blue Growth initiative of the GOCV, which it seeks to support and inform through the development of a cross-sector Integrated Marine Spatial Plan, especially on environmental sustainability and biodiversity matters. The sector mainstreaming work and the development of national frameworks on IAS and for the IMO conventions substantially strengthens the setting in which Blue Growth can be promoted. The project will also use the BG Strategic Intelligence Unit in the IMSP consultative process.

55. The 2nd phase of the West Africa Regional Fisheries Programme – Cape Verde (coined PRAOCV-II) will be another key partner initiative supporting DGRM. Coordination will happen on almost all the present project's aspects, as clearly outlined in the above sections – co-management, surveillance, the mainstreaming of ecosystem approach and biodiversity friendly practices into fisheries, the development of the IMSP and of the marine IAS framework, etc. See especially §20, Barrier 1 after §22, 28 and 35.

56. The currently starting DGA/UNDP/GEF-5 *Biodiversity and Tourism* is a direct predecessor that will engage important activities immediately relevant to the here-proposed GEF-6 project. In relation to the PA system, this entails 1) review of the current MPA network, evaluating its effectiveness in meeting conservation objectives, and representativeness of the marine biodiversity and gaps in protection; 2) review of international best practices, and local lessons learned, in MPA system planning; 3) systematic assessment of biodiversity resources on marine shelf around target islands and identification of key ecological corridors and linkages with other MPAs, particularly around Sal and Boa Vista (in Boa Vista this will include the area proposed for the Temporal Natural Reserve of Baía de Sal-Rei); 4)

²⁵ <http://soaroccean.org>

review of the socio-economic situation in proposed MPAs and identification of opportunities for local livelihood enhancement, most notably through tourism; 5) selection of candidate sites based on scientifically sound and recognized system-wide criteria and standards; and 6) development of regulations to legalize the new MPAs, followed by boundary delimitation, territorial analysis, mapping and gazetting of each MPA. See also §15, 20, and Barrier 2 after §22.

57. The project will also closely coordinate and involve as both co-financiers and beneficiaries the BIOSFERA/MAVA/CEPF initiative proposed for Santa Luzia NR. BIOSFERA has operated in the NR for a long time and knows the stakeholders and challenges intimately. BIOSFERA will be involved on a regular basis in community engagement, MPA and fisheries monitoring and enforcement including with drones, the promotion of possible ecotourism activities, conservation science. They will also lead the rat and cat eradication programme. Lastly, they will also receive capacity training from the project.

6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

58. The project will contribute to the following key relevant strategies and plans:

59. The project is in line with and works directly in support of the Charter Promoting Blue Growth in Cape Verde adopted by the GOCV in 2015. The Charters defines the logical framework for Blue Growth. The project works on the blue growth sector niches identified. And with the activities proposed by the project it is bound to be a major catalyst of sustainability enshrined in the Charter. The project is moreover in line with the Charter because it proposes to engage the cross-sector committee (Intelligence Strategic Unit) in the integrated marine spatial planning process.

60. The project is fully aligned with the **2nd National Environmental Action Plan (PANA-II, 2004-2014 -- a new PANA is under development)**, which *inter alia* underscores the importance of effective PA management for strengthening the national PA system, and the importance of integrating conservation and sustainable use of natural resources into relevant sector and cross-sector plans, programs and policies. PANA-II also recognises the conservation of maritime and terrestrial natural resources as key priorities for the sustainable development of the country.

61. It also is consistent with Cape Verde's new **National Biodiversity Strategic Action Plan** ("Improve the state of Biodiversity, safeguarding ecosystems, species and genetic diversity" under development), which includes as priorities sustainable fisheries, in situ and ex situ conservation, and legal and institutional frameworks. It will support the implementation of key elements of the recent **National Protected Areas Strategy 2013-2022 (NPAS/ENAP)**, which establishes the overall strategic vision, framework and outlook for the entire PA network in Cape Verde and the related planning, policy and regulatory mechanisms. Of particular relevance are NPAS/ENAP objectives 1.1) establish and strengthen the national network of PA, integrated in the global network of PAs; 1.2) integrate PAs in the wider terrestrial/marine context and in the relevant sector policies to maintain its structure and ecological functions and 2.2) improve and ensure the participation of local communities and stakeholders. The NBSAP also asks for the development and implementation of a comprehensive invasive species control program by 2025. Sub-actions under this outcome include: 1) Identify the propagation vectors of invasive species and assess the impacts on ecosystems and biodiversity; 2) Identify and implement measures for prevention, control, and or eradication of species; and 3) Monitor rehabilitated areas.

62. The Plan is moreover in line with the **2015 National Plan for the Management and Conservation of Corals**. And is in fact a first project directly executing some of the elements such as through the operationalisation of Santa Luzia NR which has several key coral sites.

63. Similarly it is aligned with the **National Action Plan for implementation of the CBD Programme of Work on Protected Areas (2011)**, which identified 11 priority actions including to: i) form multi-stakeholder advisory committee; ii) assess gaps in the PA network; iii) assess PA integration; v) assess the policy environment for establishing and managing PA; viii) assess PA sustainable finance needs; and xi) assess opportunities for marine protection.

64. At the sector level the project is consistent with **National Fisheries Resources Management Plan 2004-2014 (NFRMP)**, which as part of the PANA-II *inter alia* defines fisheries management principles, making reference to sustainable exploitation, the precautionary principle and the protection of the marine environment.

7. *Knowledge Management.* Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

65. This project includes a dedicated component on M&E and knowledge management. It has also been informed by numerous other related initiatives and will coordinate with these as already described, especially given that this is inherent in the cross-sector nature of the project. The socio-economic and environmental/ecological impacts of the project's interventions in the targeted regions and project sites will be regularly monitored following the M&E framework to be developed during the project preparation stage. The project will integrate important work on M&E/KM to reflect the innovation and complexity of this cross-sector undertaking and the need to constantly monitor the project's activities in relation to its goals and react through careful adaptive management. The project will allow a better understanding of environmental M&E best practices; a common, standardized language and approach for monitoring and evaluating interventions across the sectors concerned with marine spatial planning and PA management; enhanced M&E practices – in terms of M&E methodology and tools, with improved quality, frequency and application of findings; clarity in relation to the roles and responsibilities of all agencies who are directly or indirectly involved in M&E activities and the means to aggregate that data in a systematic way; and for sustainability a proposed mechanism for greater integration of M&E practices within planning, budgeting, delivery, policy development, oversight, reporting and governance-related processes. Results and case studies or stories from project activities that could facilitate the design and implementation of similar interventions will be codified and disseminated nationally and regionally through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and any other network that could be beneficial to the project implementation in terms of teachings. Equally, mutual exchange of information will be maintained between this project and other projects of a similar focus. The project will also i) prepare a critical review of relevant past work on biodiversity management (through protected areas, sector mainstreaming, research, etc.) in Cape Verde to help address the poor transmission of information between projects and enhance cross-project learning at various levels and foster replication; ii) create a biodiversity Clearing House Mechanism and populate it to international standard as a publicly accessible repository for relevant information; and iii) organise regular (e.g. quarterly) dissemination and training events on marine and terrestrial biodiversity management convened by DGA for relevant project and government staff from key sectors (e.g. those leading and involved in the Blue Growth Strategy) on past, ongoing and proposed work in Cape Verde and related international benchmarking.

66. Please refer to §38 for complementary details on the project's approach to M&E and KM.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)


A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Alexandre Nevsky Gomes M. Rodrigues	National Director for the Environment, GEF OFP	Ministry of Agriculture and Environment	23 July 2016

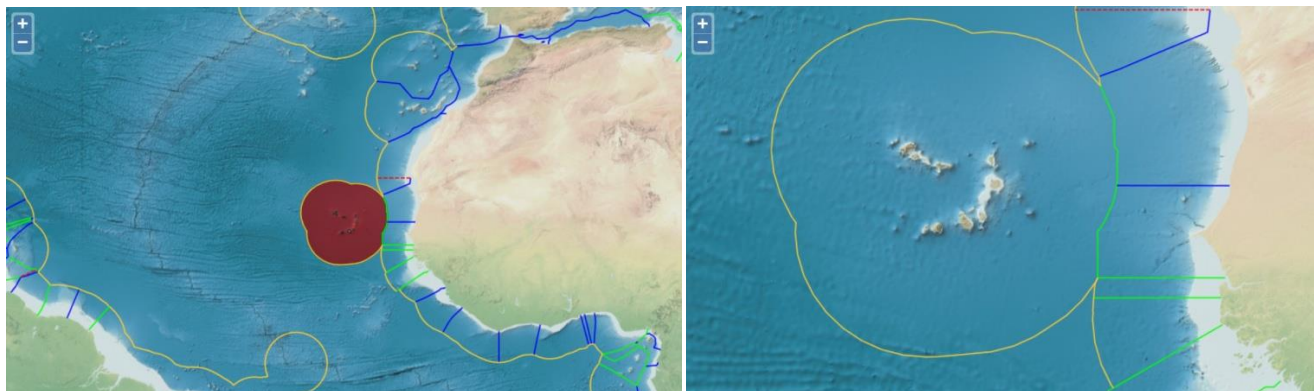
B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

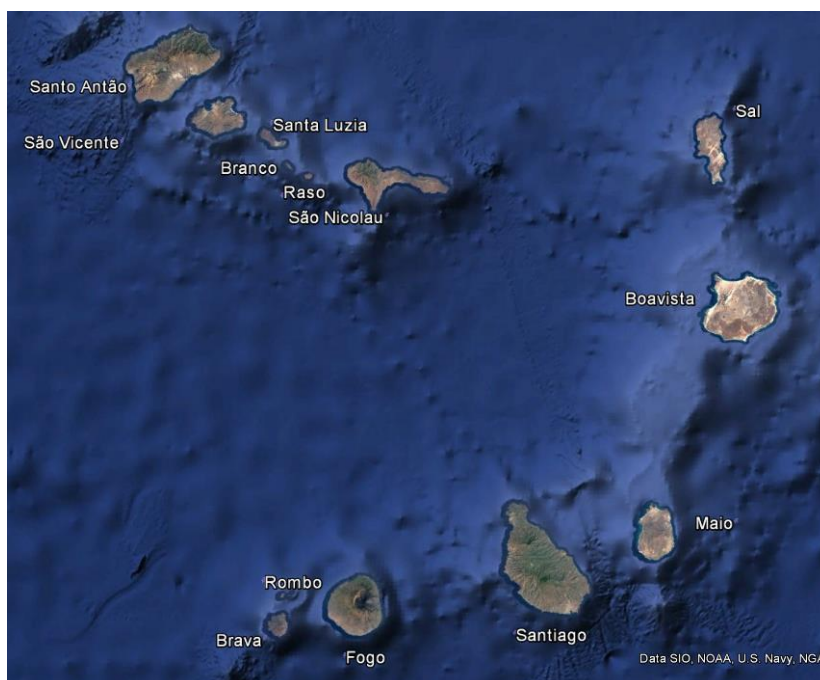
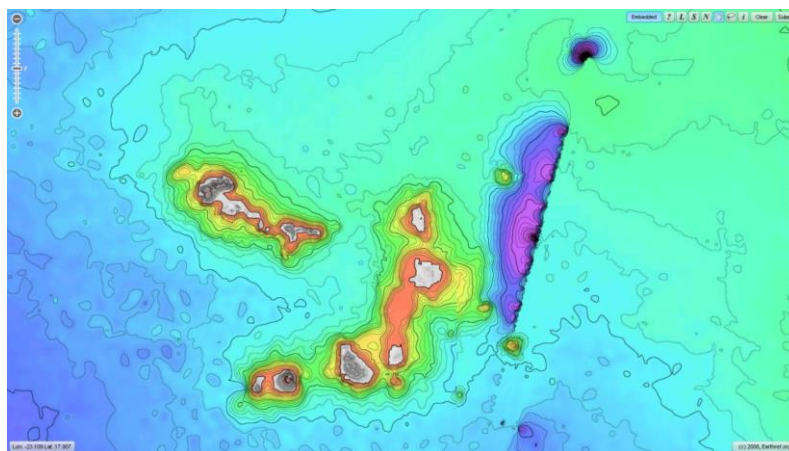
Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person Telephone, Email
Adriana Dinu, UNDP-GEF Executive Coordinator		XX Feb 2017	Yves de Soye UNDP-GEF Regional Technical Advisor +33 682 75 89 44, yves.desoye@undp.org

PART IV: ANNEXES

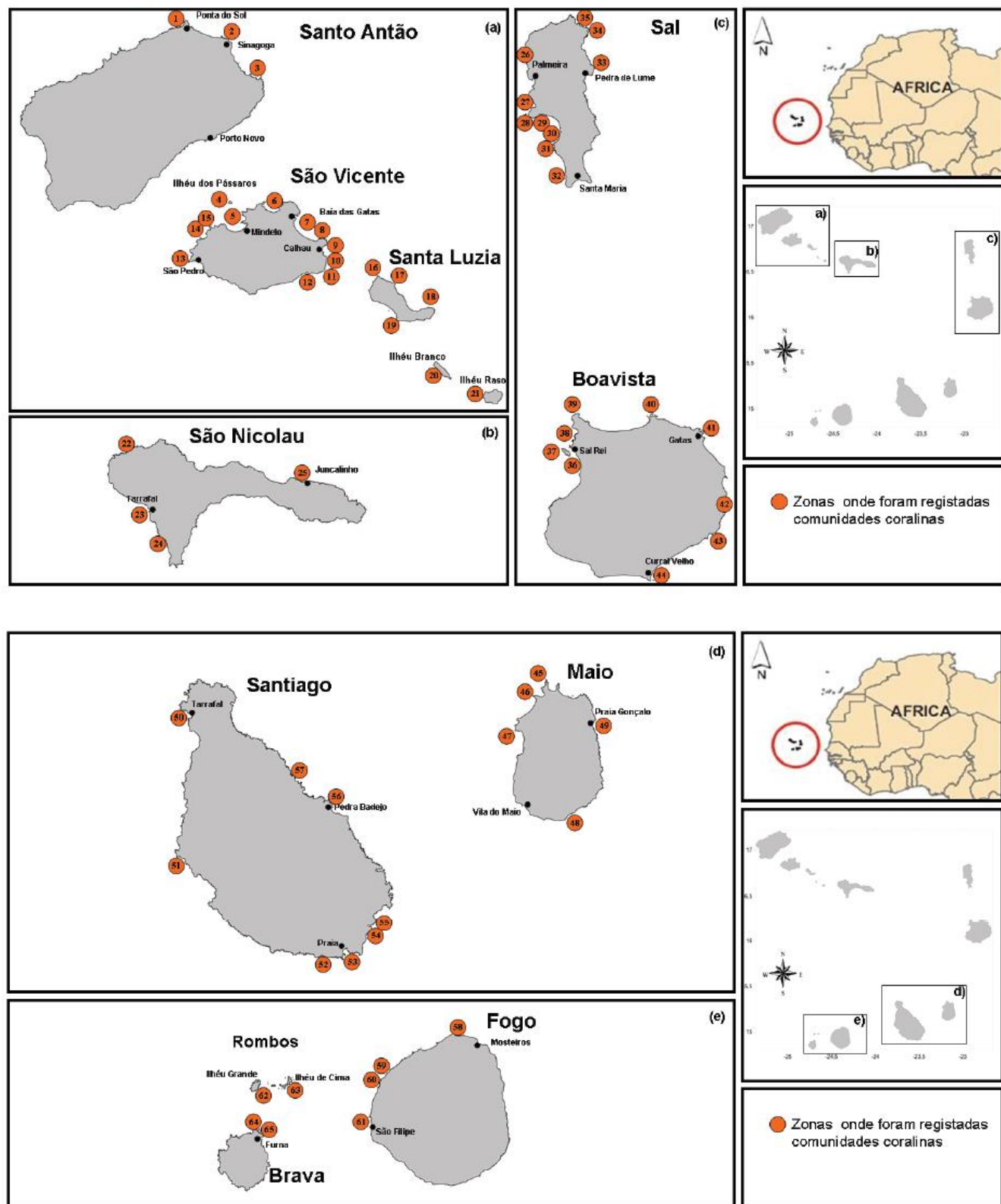
Annex 1: Cape Verde EEZ, bathygraphy, and island names



http://www.marineregions.org/eezdetails.php?eez_id=56



Annex 2: Coral Communities in Cape Verde



Annex 3: Stakeholders

Stakeholders	Mandate and anticipated roles in project implementation
DGA – General Directorate for Environment, Ministry of Agriculture and Environment (DGA is increasingly called the National Directorate for Environment DNA)	The MAE/DGA will be the leading executing partner and hosts Cape Verde's GEF Operational Focal Point and the various CBD Focal Points. DGA is responsible for environmental regulations and management, and oversees the EIA process and compliance. It is also responsible for improved management of biodiversity in production landscapes through sector engagement. DGA will be pivotal for better integrating biodiversity in the maritime sectors targeted by the project. DGA is also in charge of planning, monitoring and managing the national PA system and recently created a dedicated unit to this aim. DGA will benefit from strengthening of its PA and EIA unit and the set up of an SEA system.
Island Delegations for Agriculture and Environment	In charge of overseeing, implementing and enforcing MAE policies and programmes. They will be key liaison points to the other island authorities.
DGRM – General Directorate for Marine Resources, Ministry of Economy and Employment	In charge of planning and overseeing marine resource management and conservation, including fisheries and aquaculture, DGRM will be a critical partner and key beneficiary of the project. It leads the PRAOCV projects as well as the work on the Blue Growth Charter and Strategy and their later implementation, and was recently moved to Ministry of Economy and Employment.
ACOPESCA - Competent Authority for Fisheries Products (<i>Autoridad Competente para os Produtos de Pesca</i>)	Created under DGRM and operationalised in mid 2015 (35 staff), in charge of enforcing fisheries regulations across all fleets (artisanal, industrial, domestic and international, inside and outside the coastal zone), overseeing the implementation of bilateral fisheries agreements, controlling and certifying product quality (sanitary, IUU compliance) for exports and imports to add value to fish products, overseeing and training 20-25 fishery landing inspectors on all islands / ports, and deploying a fisheries liaison officer to COSMAR. Issue fishing boat licenses and keep a central registry ACOPESCA will be accompanied to better integrate biodiversity considerations; benefit from trainings on marine environmental / biodiversity matters; support PA and artisanal fisheries monitoring and enforcement with their VMS technology and equipment. DGA plans to enter an MOU with DGRM, GC/COSMAR and ACOPESCA to increase synergies and effectiveness, clarify mandates and responsibilities, and catalyse more effective PA surveillance and control of biodiversity impacts of fisheries. However, this work must be strengthened – for instance communities involved in co-management schemes must be intensely accompanied to ensure that biodiversity benefits are achieved.
GC / COSMAR - Coast Guard and its Operational Centre for Maritime Security (<i>Guarda Costeira / Centro Operacional Segurança Marítima</i>)	Created and operationalised in 2010 with sophisticated equipment, inter alia constantly tracks larger fishing vessels with mandatory individualised positioning systems through the satellite-based Vessel Monitoring System and cross-reference this with its additional Vehicle Traffic Monitoring System (VTMS) that does not depend on individual positioning systems. COSMAR can flag boats that may be fishing illegally, and has 9 seagoing vessels and 1 plane to control and enforce. COSMAR will have a role similar to ACOPESCA, with a greater enforcement angle, and also benefit in the same manner.
AMP – Maritime and Ports Agency (<i>Agência Marítima e Portuária</i>)	AMP is in charge of overseeing economic activities in the maritime space and the ports and enforcing related regulations, and provide nautical maps. AMP operates the multi-input Vessel Traffic Management System (VTMS) for Cape Verde to monitor maritime traffic especially near the coasts, and will have deployed ground based radar stations on all islands by end 2-016 to monitor also smaller vessels on coastal areas up to 60 miles. AMP is therefore in charge of shipping and related threats, and of the national implementation of all or most IMO conventions. It is also in charge of phyto-sanitary inspections of merchandise arriving in ports. AMP developed a coastal development plan, and a Strategy for Cape Verde Seas which was however never completed and adopted. AMP will be another key partner and beneficiary of the project. The national frameworks for IMO conventions will be developed and implemented together with AMP and lead to the preparation of a national early warning system and of intervention protocols for maritime accidents and oil/ chemicals spills. AMP will also benefit from the development of an IAS prevention framework and be a partner in its implementation in the marine space. It will benefit from trainings on marine environmental / biodiversity matters.

ASA – Airports and Aerial Security (<i>Aeroportos e Segurança Aérea de Cabo Verde</i>)	In charge of phyto-sanitary inspections at airports. Will benefit from the development of an IAS prevention framework and be a partner in its implementation.
MOF – Ministry of Finance <i>Ministério das Finanças</i>	Is involved in the Blue Growth Strategy, and will work with the project on the Biodiversity Public Expenditure Review.
FAO	Another key partner, supporting the GOCV in developing the Blue Economy / Blue Growth Strategy, and also planning to financially support it. Will be involved in project objective-setting, planning, coordination and implementation.
National Institute for Fisheries – INDP, and UNCV-ESM Universidad de Cabo Verde / Escuela Superior do Mar (Mindelo)	INDP and UNCV-ESM conduct research as well as trainings for academia and local stakeholder, on: marine/fisheries resources and their biology and genetics, economic value of marine resources, aquaculture, marine biodiversity, fisheries recruitment areas (sharks), valuation of fish resources, oceanography, sea mounts, remote sensing of marine environment and resources, climate change impacts, resource statistics, improved fishing equipment, supporting production and management. INDP is currently building an oceanography centre in Mindelo. ESM is additionally broader as it also conducts research and training on many other maritime aspects, e.g. to form mariners. INDP and UNJCV-ESM will play a role in monitoring efforts und Component 4
MAVA Foundation	Prospective donor to BIOSFERA, to operationalise Santa Luzia NR, co-financier to the present project providing also technical expertise through FIBA and PRCM
Civil society / NGOs and local fishing communities	Please see §49
Municipalities on the targeted islands	Will be involved through local consultative committees and at national level through the National Association of Municipalities.

Annex 4: IAS found in Cape Verde - from Global Invasive Species Database

Alien Species

1. Estrilda astrild (bird) – Common Waxbill

Interim profile, incomplete information

The common waxbill, Estrilda astrild is native to tropical and southern Africa, but has been introduced to many island nations where it has shown mixed success in establishment. It feeds mainly on grass seeds and is commonly found in open long grass plains and close to human habitation. E. astrild shows a high reproductive rate which is attributed to its ability to naturalize easily.

2. Hemidactylus mabouia (reptile) – Afro-American House Gecko

Interim profile, incomplete information

Hemidactylus mabouia is a nocturnal, fixed clutch size lizard that is native to continental Africa. However, it is now widespread throughout southern North America, South and Central America since its introduction, thought to have first occurred via slave ships during the European colonisation of Africa. H. mabouia is commonly thought to be a human commensal, and can be found in both natural and altered habitats. It is an aggressive species and has been known to displace and eat native geckos.

3. Hypnea musciformis (alga)

Hypnea musciformis (basionym Fucus musciformis) is classified as a red algae and is distributed throughout most of the world. It was recently introduced to Hawaii and has quickly become invasive and a nuisance.

4. Leucaena leucocephala (tree)

The fast-growing, nitrogen-fixing tree/shrub Leucaena leucocephala, is cultivated as a fodder plant, for green manure, as a windbreak, for reforestation, as a biofuel crop etc. Leucaena has been widely introduced due to its beneficial qualities; it has become an aggressive invader in disturbed areas in many tropical and sub-tropical locations and is listed as one of the '100 of the World's Worst Invasive Alien Species'. This thornless tree can form dense monospecific thickets and is difficult to eradicate once established. It renders extensive areas unusable and inaccessible and threatens native plants.

5. *Monomorium floricola* (insect)

Interim profile, incomplete information

The primarily arboreal flower ant (*Monomorium floricola*) is one of the world's most broadly distributed tramp ants. Most occurrence records of *M. floricola* are in tropical and sub-tropical regions from latitudes above 30 degrees; populations in latitudes above 35 degrees are found in heated buildings or inside greenhouses. *M. floricola* has been identified as a significant arboreal predator of insect eggs; in Guam it is recognised as one of three most important ant species attacking eggs of native butterflies resulting in their reduced populations.

Common Names: bicoloured trailing ant, Braunrote Blütenameise, brownish-red flower ant, floral ant , flower ant, futairo-hime-ari

6. *Prosopis spp.* (tree, shrub)

Members of the genus *Prosopis spp.*, which are commonly known as mesquite or algarrobo, include at least 44 defined species and many hybrids. This leads to problems with identification. For this reason, information about different species in the *Prosopis* genus is presented in this genus-level profile. Native to the Americas, *Prosopis* species are fast growing, nitrogen fixing and very salt and drought tolerant shrubs or trees. Most are thorny, although thornless types are known. Animals eat the pods and may spread seeds widely. Trees develop a shrubby growth form if cut or grazed. The four main species that have presented problems as weeds world-wide are *P. glandulosa* and *P. velutina* in more subtropical regions and *P. juliflora* and *P. pallida* in the truly tropical zone.

7. *Psittacula krameri* (bird) Ring-necked Parakeet

Interim profile, incomplete information

The rose-ringed parakeet, *Psittacula krameri*, is native to central Africa and Asia and is a colourful, distinctive-looking bird. It is known as one of the most successful avian invaders in the world, with established populations in over 35 countries outside its native range. *P. krameri* has been shown to have adverse impacts on native bird species and carry diseases. It is thought that its reproductive success, establishment and range expansion in non-native areas is related to climate similarities of non-native areas to that of its native range.

8. *Tapinoma melanocephalum* (insect) – Black-headed Ant

Tapinoma melanocephalum is known as a tramp ant as its spread around the globe has been assisted by human activities. It is highly flexible in the habitats it occupies, providing there is some form of disturbance allowing it to establish ahead of more dominant ant species, and it nests readily outdoors or indoors. *Tapinoma melanocephalum* is a household pest, as well as disturbing greenhouse environments and can transport pathogenic microbes in hospitals.

Biostatus not specified

1. *Ceratitis capitata* (insect) – Mediterranean Fruit Fly

Ceratitis capitata is considered a major tephritid fruit fly pest of economic importance attacking more than 300 different hosts, primarily temperate and subtropical fruits. The medfly as it is commonly called has invaded many countries and caused major economic losses for fruit farmers. *C. capitata* has the ability to tolerate cooler climates better than most other species of fruit flies. It lays its eggs under the skin of fruit, usually around already broken skin. Due to this reproduction habit, *C. capitata* thrives in agricultural areas where fruit is left out and becomes damaged. It spreads to new locations via exports and the local sale of fruit that contains eggs.

2. *Paratrechina longicornis* (insect) – Long-horned (Crazy) Ant

Paratrechina longicornis (the crazy ant) is a tramp ant, which, by definition, is an ant that is widely dispersed through commerce and other human-assisted avenues. It is extremely easy to identify by observing its rapid and erratic movements. *Paratrechina longicornis* is highly adaptable to various environments and can be a major pest. It occurs in large numbers in homes or outdoors and is capable of displacing other ants and possibly other invertebrates. *Paratrechina longicornis* forages over long distances away from its nest, making the nest hard to find and the ants difficult to control.

3. *Tubastraea coccinea* (coral) – Orange-cup Coral

Tubastraea coccinea (orange-cup coral) has been introduced to all continents except Antarctica and is thought to compete with native benthic invertebrates for space and to compromise their communities. The reduction of native sponges and native corals could also have significant flow-on effects for entire ecosystems.

4. Watersipora subtorquata (bryozoan)

Watersipora subtorquata (d'Orbigny, 1852) is a loosely encrusting bryozoan. It is tolerant to copper based antifouling coatings and is infamous for fouling ships hulls and facilitating the fouling and spread of other marine invasives. *Watersipora subtorquata* is considered cosmopolitan and widely invasive among cool temperate water ports. Preventative measures are the only practical means of control at this time.

Native Species

1. Caulerpa webbiana (alga)

Interim profile, incomplete information

2. Cenchrus polystachios (grass) – West Indian Pennisetum

Cenchrus polystachios (*Pennisetum polystachion*) is a large grass species originating from Africa and India. It has spread to many Pacific islands and thrives in tropical climates. *C. polystachios* causes major problems in the Northern Territory of Australia, where it has greatly increased the amount of flammable material in the wooded savanna ecosystem, leading to greater devastation from bushfires.

3. Columba livia (bird) Feral Rock Pigeon

Columba livia is native to Europe and has been introduced worldwide as a food source, or for game. These pigeons prefer to live near human habitation, such as farmland and buildings. They cause considerable damage to buildings and monuments because of their corrosive droppings. They also pose a health hazard, since they are capable of transmitting a variety of diseases to humans and to domestic poultry and wildlife.

4. Launaea intybacea (shrub) - Bitter Lettuce

Interim profile, incomplete information

Bitter lettuce (*Launaea intybacea*) is a native of Africa and has been introduced to parts of lower Northern America, the West Indies, Central America, South America, temperate and tropical Asia. A cosmopolitan weed it is adapted to dry conditions. It is reported to be spreading rapidly in disturbed areas on Grand Cayman.

5. Polysiphonia brodiei (alga) - Red Macroalga

Polysiphonia brodiei (red macroalga) is a common red alga with filamentous branches. It is abundant in northern Europe and has been introduced via ships to North America, Australia, New Zealand and Japan.

6. Sparus aurata (fish) - Gilthead Bream / Dorade

Gilthead bream (*Sparus aurata*) is a fish of Mediterranean and Atlantic Ocean origin. It is one of the most important fish in the aquaculture industry in the Mediterranean. However the rapid development of marine cage culture of this fish has raised concerns about the impact of escaped fish on the genetic diversity of natural populations.