

# Strategic Plan for São Tomé & Príncipe 2021-2030



BirdLife International, São Tomé & Príncipe delegation  
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## FOREWORD

The island nation of São Tomé and Príncipe, in the Gulf of Guinea, is the quintessence of nature's beauty. It is the second smallest country in Africa, covering an area smaller than Greater London. Despite its small size, it is a true gem. São Tomé and Príncipe is home to exceptionally high numbers of endemic species, including seven mammals, eight amphibians, 17 reptiles and 28 bird species found nowhere else on earth. It is deserving of the label 'Africa's Galapagos'. However, the terrestrial and marine ecosystems and the endemic species of this extraordinary island nation are under threat. Four bird species are at the brink of extinction, being listed as Critically Endangered in the IUCN Red List; namely: the Dwarf Ibis (*Bostrychia bocagei*), the São Tomé Fiscal (*Lanius newtoni*), the São Tomé Grosbeak (*Crithagra concolor*), and the Príncipe Thrush (*Turdus xanthorhynchus*).

The balance between nature and people is fragile, and these remarkable islands are far from being protected from human influence. Since the end of the fifteenth century, human colonisation of the islands has exposed ecosystems to ever-increasing anthropogenic pressure. Expanding agriculture and burgeoning human population are the primary threats to biodiversity, causing habitat degradation and loss. Major developments in the tourism or energy sectors and inadequate spatial planning underpin rapid land-use changes. Along with these threats comes the over-exploitation of limited natural resources. More than 90% of the timber used for constructing buildings is extracted illegally. Timber and non-timber forest products are major contributors to the informal economy of the country. Firewood and charcoal are the main sources of energy for cooking. Environmental regulations and enforcement mechanism are inadequate to protect natural assets.

In the volcanic islands of São Tomé and Príncipe, the local populations are concentrated in the coastal areas and depend on ecosystem services from the forests, particularly from the Obô Natural Parks. Ecosystem functioning is critical to ensure the quality of life in these landscapes. Fish is the foremost source of protein in the country. However, the marine ecosystem is threatened by unsustainable fisheries. Foreign fishing fleets are poorly managed through international agreements with the government of São Tomé and Príncipe. Bycatch of seabird and marine turtle is a pervasive problem in the fisheries sector. Threats to biodiversity are exacerbated by the spread of invasive alien species and climate change.

The environmental issues of the islands' nation call for urgent actions that are transformational in nature. Working in collaboration with the Government of São Tomé and Príncipe, development partners, private sector, civil society organisations and local communities, BirdLife is committed to conserve the unique biodiversity of the islands and promote models for inclusive and sustainable development of the archipelago. We have a unique opportunity to make this happen now.

BirdLife International is the oldest and largest global partnership of conservation organisations. BirdLife strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. Together we are over 110 BirdLife Partners worldwide.

With sincere appreciation for the support of the European Union, we have an established presence in São Tomé and Príncipe since 2018, through the national component of the ECOFAC6 programme. This strategic plan (2021-2030) is tailored to the local context and aligned with BirdLife International's conservation strategy. It aims to enable conditions for biodiversity conservation in São Tomé and Príncipe by improving livelihoods, creating green jobs, and promoting a sustainable economy based on a development model that favours preserving the protection of nature to ensure climate change-resilient ecosystem services. BirdLife's interventions encompass protecting species and habitats, strengthening the institutional framework for protected areas enforcement and management, promoting biodiversity consideration in policies and development agenda, and, above all, raising the conservation leaders, by informing and developing capacities of decision-makers, government technicians, implementors, civil society organisations, private sector and communities. We will extend our impact to herald a green future for the country.

We aim at identifying a local partner by 2025, who would sustain the actions launched under this strategic plan. This plan enables us to chart the course of a resilient green future model for biodiversity conservation. A challenging and achievable outcome that we can reach together!

I take this opportunity to thank the Government of the Democratic Republic of São Tomé and Príncipe for allowing us to support the conservation of their natural heritage. I would also like to thank everyone who participated in developing the strategic plan and those that will be involved in its implementation.

Obô nón, cloçon nón, amôlê nón, vida nón!

A handwritten signature in blue ink, appearing to be 'R. Silva', with a horizontal line underneath.

## EXECUTIVE SUMMARY

At 1,001 km<sup>2</sup> the island nation of São Tomé & Príncipe is the second smallest nation in Africa. Yet despite its size the islands support globally outstanding levels of endemism, the result of millions of years of isolated evolution having never been connected to the African continent. Indeed, often referred to as the 'Galapagos of Africa' in recognition of this endemism, the islands of São Tomé & Príncipe are classified amongst the countries with the highest levels of endemic species in the world, mainly birds, amphibians, plants, bats, reptiles, butterflies and molluscs distributed in different terrestrial and marine ecosystems and habitats.

São Tomé & Príncipe is a Small Island Developing State highly dependent on development assistance with an estimated 90-95% of its annual budget stemming from international development support. It has a public debt burden of around 90% of the GDP and has difficulty servicing its external debt, which is regularly rescheduled. The primary foreign currency earnings are based on plantation agriculture and related exports, mainly to Europe, which amounted to USD16M in 2017. Agriculture accounts for a significant share of employment on STP, about 26% of the labour force and around 60% of the active population. In this context, the foremost priority of the Government of São Tomé & Príncipe is to expand existing and develop new sources of economic growth and development, to provide employment to its citizens and raise living standards. To achieve this the government aims to become an international logistical hub, further develop fisheries, raise production and revenue from plantation agriculture, exploit rich oil & gas resources in territorial waters, and capitalise on the potential for further development of the tourism industry. Such an ambitious drive to develop the economy comes with significant development challenges in how to reconcile the different streams of development objectives and investments, most of which depend on natural resources and ecosystem services and can have negative impacts on these.

The principal threats to Sao Tome e Principe's unique biosphere and endemism principally stem from high levels of poverty, exponential growth in demography and unsustainable land-use and fishing practices, the illegal and unsustainable exploitation of timber by small commercial operators, an inadequate legal and policy framework including the lack of biodiversity mainstreaming, poor implementation of existing policies, laws, regulations and plans, and the potential impacts related to the proposed development of sectors such as oil and gas, fisheries and tourism. As a consequence, São Tomé & Príncipe sit at an important crossroads where decisions made and acted on now will impact not only their astonishing natural capital, but also stand to compromise the very basis for long term economic sustainability.

While there have been significant advances in recent years towards securing the natural heritage of this globally important biosphere, current protection regimes poorly represent the rich diversity and interconnectedness of ecosystems. Whereas most of the higher altitude areas are protected, albeit on paper only, there is little protection in lowland areas and even less in the marine realm. The Sao Tome Obo Natural Park (PNOST) and Principe Natural Park (PNP), both established in 2006 and which together cover almost a third of the archipelago, mostly cover higher altitude areas unsuitable for agriculture and settlement. Meanwhile the respective buffer zones and others high conservation value forests remain unprotected and the 2012 listed UNESCO Biosphere Reserve for Principe and the Tinhosa Islands Ramsar site, which are the most important seabird colonies in the eastern tropical Atlantic Ocean, are not yet translated into national law. Within the highly modified lowland areas are not only pockets of relatively intact habitat, but also novel ecosystems including long abandoned and naturally rewilded plantations, as well as recently developed plantations, all of which to a greater or lesser degree are important habitat for key biodiversity. In the marine realm, there are currently no protected areas except for the coastal strip from the Principe Natural Park.

With government plans underway to further develop commercial plantations, fisheries and oil and gas, and considering the unsustainable use of natural resources, any protection plan needs to think and act beyond the existing protected area network and beyond the traditional way of protecting biodiversity. Ultimately, in addition to protected areas the strategy must include innovative ways to manage for biodiversity within agricultural landscapes, both under public and private management.

BirdLife International has been active in São Tomé & Príncipe for over 10 years, working with park management authorities, government ministries and communities to promote research, conservation of threatened birds and empowerment. In 2017, through the EU-funded ECOFAC6 Regional Programme, BirdLife International obtained a four-and-a-half-year grant for the protection of the Natural Parks in São Tomé and Príncipe islands. The project addresses the structural challenges to sustainable conservation of São Tomé & Príncipe's unique forests and creates the frameworks for the effective management of the Natural Parks and surrounding landscapes. However, one of the challenges with this approach has been the limited scope, which is only partially representative of the diversity and interconnectedness of habitats. This recognition, along with limitations associated with operating on a project-based versus programmatic approach, was the impetus for BirdLife International to commit to a long-term strategic programme for São Tomé & Príncipe.

Although BirdLife International's default approach is to work through local partners, in São Tomé & Príncipe this is not possible as there are currently no local partners with the capacity to take the lead on biodiversity conservation in the country. BirdLife International is also the only international conservation NGO with an integrated strategy covering everything from marine to terrestrial and from developing protected areas to mainstreaming biodiversity. As a result, one of the key components of this strategy will be building local capacity, a key pillar of BirdLife's global approach, and within that the capacity of a local partner who can incrementally assume greater responsibility for leadership, management and ownership of the strategy. Overall, this strategy aims to address gaps in biodiversity protection, and to empower local people and institutions to achieve this. BirdLife International's vision is that "the economy of São Tomé & Príncipe is underpinned by the effective conservation of biodiversity through nationally driven efforts that place local people and biodiversity central to the country's economic model" with the goal to "sustainably improve biodiversity conservation in São Tomé & Príncipe."

BirdLife has identified eight Strategic Objectives (SO) to guide its intervention and align its global strategy to the specificity of São Tomé and Príncipe. Over the next decade, by addressing the chronic gaps in knowledge on species, ecosystems and biological diversity of the archipelago, promoting monitoring and further translation of knowledge into realistically applicable guidance and practices, fostering collaborations and synergies, BirdLife will drive the development of a sustained evidence-based platform that informs biodiversity conservation action (SO1). Simultaneously, by facilitating assessment and assessing gaps in institutional arrangements, and in biodiversity mainstreaming within policies and legal and regulatory frameworks, and by working collaboratively with civil society and government, BirdLife and associates will drive the improvement of the institutional, policy, legal and regulatory frameworks for biodiversity conservation (SO2). Also, the focus for further conservation action shall be biodiversity hotspots. By supporting a national review of Key Biodiversity Areas and promoting innovative, simple, site-specific, effective management models, while promoting surveillance & monitoring and economic alternatives in place of unsustainable use of natural resources, BirdLife will promote sustainable management of the Key Biodiversity Areas (SO3). In parallel, by actively supporting effective management of existing protected areas and driving the identification, designation and development of new terrestrial and marine protected areas, BirdLife will support effective management of a comprehensive protected areas network (SO4). As important as the existing and future expanded protected area network is/will be, BirdLife recognises the importance that the broader landscape plays in supporting biodiversity. By promoting and supporting effective and innovative solutions for the sustainable production and extraction of natural resources (including soils), by proposing alternatives toward an economic transition, by enhancing specific under-valued supply chain, from small holder farmers to agro-industry, by moving towards sustainable practices that place biodiversity central to the economic model, by improving integrated resources management, by strengthening resilience to climate change and supporting strategic decision-making to ensure species & sites conservation and restoration, BirdLife will mainstream biodiversity conservation across sectors of the economy (SO5). This comes at a cost and finance is key to sustainability. By preparing and building on a comprehensive sustainable finance plan, BirdLife will secure availability of sustainable financing for biodiversity conservation and protected areas management (SO6). Biodiversity conservation sustains life on the islands. Local populations benefit from biodiversity conservation, through provision of ecosystem services and well-being, for current and future generations. By effectively communicating, educating, building capacity and securing coordination mechanisms, BirdLife will raise awareness of the value of biodiversity (SO7). This approach only makes sense if there is continuity in action, especially through civil society. Although BirdLife International's default approach is to work through local partners, there are currently no local organisation in São Tomé & Príncipe fitting the partnership criteria's. By identifying and supporting conservation leaders, while empowering grassroots nature conservation organisations and facilitating access to conservation funding for local CSOs, BirdLife aims at identifying and supporting a national NGO

or platform of NGOs/CSOs to assume incremental responsibility in leadership and implementation of the BirdLife strategy in STP towards long-term partnership involvement (SO8).

The strategy formalises a shift to a programme-based approach in Sao Tomé and Príncipe; to ensure the coherence of the led actions for biodiversity conservation and to guarantee the necessary capacities to ultimately welcome a national organisation to the BirdLife partnership.

## RESUMO EXECUTIVO

A nação insular de São Tomé e Príncipe, de 1.001 km<sup>2</sup>, é a segunda nação mais pequena de África. No entanto, apesar da sua dimensão, as ilhas suportam níveis de endemismo globalmente excecionais, o resultado de milhões de anos de evolução em isolamento, sem nunca terem estado ligadas ao continente africano. De facto, frequentemente referidas como as "Galápagos de África" em reconhecimento deste endemismo, as ilhas de São Tomé e Príncipe estão entre os países com maior proporção de espécies endémicas, principalmente aves, anfíbios, plantas, morcegos, répteis, borboletas e moluscos, distribuídos em diferentes ecossistemas terrestres e marinhos.

São Tomé e Príncipe é um Pequeno Estado Insular em Desenvolvimento (SIDS – *Small Island Developing State*) altamente dependente da ajuda externa com um orçamento anual estimado em 90-95% proveniente do apoio internacional ao desenvolvimento. Tem um peso da dívida pública de cerca de 90% do PIB e dificuldade em controlar a sua dívida externa, que é regularmente reescalada. As principais receitas em moeda estrangeira baseiam-se na agricultura e nas exportações relacionadas com a agricultura, principalmente para a Europa, que ascenderam a 16 milhões de USD em 2017. A agricultura representa uma parte significativa do emprego em STP, cerca de 26% da força de trabalho e cerca de 60% da população ativa. Neste contexto, a principal prioridade do Governo de São Tomé e Príncipe é expandir as fontes existentes e desenvolver novas fontes de crescimento económico e desenvolvimento, para proporcionar emprego aos seus cidadãos e elevar o nível de vida. Para atingir este objetivo, o governo pretende tornar-se um polo logístico internacional, continuar a desenvolver a pesca, aumentar a produção e as receitas da agricultura, explorar recursos ricos de petróleo e gás em águas territoriais, e capitalizar o potencial para um maior desenvolvimento da indústria do turismo. Um impulso tão ambicioso para o desenvolvimento da economia vem com desafios de desenvolvimento significativos, nomeadamente para conciliar os diferentes fluxos de objetivos e investimentos de desenvolvimento, a maioria dos quais depende dos recursos naturais e dos serviços ecossistémicos, podendo ter impactos negativos sobre os mesmos.

As principais ameaças à biosfera e aos endemismos únicos de São Tomé e Príncipe provêm principalmente dos elevados níveis de pobreza, do crescimento populacional exponencial, de práticas insustentáveis de utilização da terra e de pesca, da invasão crescente de espécies exóticas introduzidas, da exploração ilegal e insustentável da madeira por pequenos operadores comerciais, de um quadro jurídico e político inadequado, incluindo a falta de integração da biodiversidade, da fraca implementação das políticas, leis, regulamentos e planos existentes, e dos potenciais impactos relacionados com o desenvolvimento proposto de sectores como o petróleo e o gás, a pesca e o turismo. Como consequência, São Tomé e Príncipe encontra-se numa importante encruzilhada, onde as decisões que têm vindo a ser tomadas e estão a ser tomadas agora terão impacto não só no seu espantoso capital natural, mas também comprometem a própria base da sustentabilidade económica a longo prazo.

Embora tenha havido avanços significativos nos últimos anos no sentido de assegurar a preservação do património natural de importância global, os atuais regimes de proteção não representam adequadamente a rica diversidade e a interconectividade dos ecossistemas. Enquanto que a maioria das zonas de maior altitude são protegidas, mesmo que apenas formalmente, existe uma fraca cobertura das zonas de baixa altitude e sobretudo do domínio marinho pela rede de áreas protegidas. O Parque Natural Obô de São Tomé (PNOST) e o Parque Natural do Príncipe (PNP), ambos criados em 2006 e que, em conjunto, cobrem quase um terço do arquipélago, abrangem sobretudo áreas de maior altitude impróprias para a agricultura e para o povoamento. Entretanto, as respetivas zonas tampão e outras áreas de alto valor de conservação permanecem desprotegidas. A Reserva da Biosfera da UNESCO no Príncipe e a Zona Ramsar das Ilhas Tinhosa, que possui as colónias de aves marinhas mais importantes no Leste do Oceano Atlântico tropical, ainda não estão traduzidas na legislação nacional. Entre as zonas baixas altamente modificadas, existem pequenas áreas com ecossistemas relativamente pouco alterados, mas também novos ecossistemas, incluindo florestas secundárias resultantes de abandono agrícola, bem como plantações recentemente desenvolvidas que, em maior ou menor grau, também são importantes para a biodiversidade única das ilhas. No domínio marinho, não existem atualmente áreas protegidas além da faixa marítima do Parque Natural do Príncipe.

Com os planos governamentais em curso para continuar a desenvolver plantações comerciais, pescas, petróleo e gás, e considerando a utilização atualmente já insustentável dos recursos naturais, qualquer plano de proteção precisa de pensar e agir para além da rede de áreas protegidas e dos métodos mais convencionais de proteção da biodiversidade. Em última análise, para além das áreas protegidas, a estratégia deve incluir formas inovadoras de gerir a biodiversidade dentro das paisagens agrícolas, tanto públicas como privadas.



A BirdLife International tem estado ativa em São Tomé e Príncipe há mais de 10 anos, trabalhando com autoridades de gestão de parques, ministérios governamentais e população para promover investigação, conservação de aves ameaçadas e capacitação. Em 2017, através do Programa Regional ECOFAC6 financiado pela UE, a BirdLife International obteve uma subvenção de quatro anos e meio para a proteção dos Parques Naturais nas ilhas de São Tomé e Príncipe. O projeto aborda os desafios estruturais à conservação sustentável das florestas únicas de São Tomé e Príncipe e cria as estruturas para a gestão eficaz dos Parques Naturais e das paisagens circundantes. No entanto, um dos desafios com esta abordagem tem sido o âmbito limitado, que é apenas parcialmente representativo da diversidade e interligação dos ecossistemas. Este reconhecimento, juntamente com as limitações associadas à operação numa abordagem baseada em projetos *versus* programática, foi o impulso para que a BirdLife International se empenhasse num programa estratégico a longo prazo para São Tomé e Príncipe.

Embora a abordagem por defeito da BirdLife International seja trabalhar através de parceiros locais, em São Tomé e Príncipe isto não é possível, uma vez que não existem atualmente parceiros locais com capacidade para assumir a liderança na conservação da biodiversidade no país. A BirdLife International é também a única ONG internacional de conservação com uma estratégia integrada que abrange um espectro completo, do marinho ao terrestre e do desenvolvimento de áreas protegidas à integração da biodiversidade nas atividades sectoriais. Como resultado, um dos componentes essencial desta estratégia será a construção de capacidades locais, um pilar chave da abordagem da BirdLife ao nível global, e dentro disso a capacidade de um parceiro local que pode progressivamente ir assumindo maior responsabilidade pela liderança, gestão e propriedade da estratégia. Geralmente, esta estratégia visa colmatar lacunas na proteção da biodiversidade, e capacitar as pessoas e instituições locais para o conseguirem. A visão da BirdLife International é que "a economia de São Tomé & Príncipe é sustentada pela conservação efetiva da biodiversidade através de esforços nacionais que colocam a população local e a biodiversidade no centro do modelo económico do país" com o objetivo de "melhorar a conservação da biodiversidade em São Tomé & Príncipe de forma sustentável".

A BirdLife identificou oito Objectivos Estratégicos (SO – *Strategic Objectives*) para orientar a sua intervenção e alinhar a sua estratégia global com a especificidade de São Tomé e Príncipe. Durante a próxima década, ao abordar as lacunas crónicas no conhecimento sobre espécies, ecossistemas e diversidade biológica do arquipélago, promovendo a monitorização e uma maior tradução dos conhecimentos em orientações e práticas aplicáveis, promovendo colaborações e sinergias, a BirdLife impulsiona o desenvolvimento de uma plataforma baseada em provas, sustentada, que informe a ação de conservação da biodiversidade (SO1). Simultaneamente, ao facilitar a avaliação e análise de lacunas nos arranjos institucionais, e na integração da biodiversidade nas políticas e quadros legais e regulamentares, e ao trabalhar em colaboração com a sociedade civil e o governo, a BirdLife e os seus associados conduzirão à melhoria dos quadros institucionais, políticos, legais e regulamentares para a conservação da biodiversidade (SO2). Além disso, o foco para futuras ações de conservação serão os hotspots da biodiversidade. Ao apoiar uma revisão nacional das Áreas Chave para a Biodiversidade (KBA – *Key Biodiversity Area*) e ao promover modelos de gestão inovadores, simples, específicos e eficazes, promovendo simultaneamente a vigilância, a monitorização e alternativas económicas à utilização insustentável dos recursos naturais, a BirdLife irá promover a gestão sustentável das Áreas Chave para a Biodiversidade (SO3). Paralelamente, ao apoiar ativamente a gestão eficaz das áreas protegidas existentes e ao impulsionar a identificação, designação e desenvolvimento de novas áreas protegidas terrestres e marinhas, a BirdLife apoiará a gestão eficaz de uma rede abrangente de áreas protegidas (SO4). Da mesma importância que a rede de áreas protegidas, existente ou futura, a BirdLife reconhece a importância que a paisagem mais vasta desempenha no apoio à biodiversidade. Ao promover e apoiar soluções eficazes e inovadoras para a produção e extração sustentável de recursos naturais, incluindo uma melhor gestão do uso dos solos, ao propor alternativas para uma transição económica, ao reforçar as cadeias de valor específicas e subvalorizadas, desde pequenos agricultores até à agro-indústria, ao avançar para práticas sustentáveis que colocam a biodiversidade no centro do modelo económico, ao melhorar a gestão integrada de recursos, ao reforçar a resiliência às alterações climáticas e ao apoiar a tomada de decisões estratégicas para assegurar a conservação e restauração de espécies e sítios, a BirdLife participará na integração da conservação da biodiversidade em todos os sectores da economia (SO5). Isto tem um custo e o financiamento é fundamental para a sustentabilidade. Ao preparar e desenvolver um plano de financiamento sustentável abrangente, a BirdLife garantirá a disponibilidade de financiamento sustentável para a conservação da biodiversidade e gestão de áreas protegidas (SO6). A biodiversidade sustenta a vida nas ilhas, e como tal as populações locais beneficiam da conservação da biodiversidade, através da prestação de serviços e bem-estar dos ecossistemas, para as gerações atuais e futuras. Ao comunicar, educar, desenvolver capacidades e assegurar mecanismos de coordenação eficazes, a BirdLife aumentará a sensibilização para o valor da biodiversidade (SO7). Esta

abordagem só faz sentido se houver continuidade na ação, especialmente através da sociedade civil. Embora a abordagem padrão da BirdLife International seja trabalhar através de parceiros locais, não existe atualmente nenhuma organização local em São Tomé e Príncipe que se enquadre nos critérios de parceria. Ao identificar e apoiar líderes de conservação, ao mesmo tempo que fortalece as organizações locais de conservação da natureza e facilita o acesso ao financiamento da conservação para as OSC locais, a BirdLife visa identificar e apoiar uma ONG nacional ou plataforma de ONGs/OSCs a assumir uma responsabilidade progressivamente maior na liderança e implementação da estratégia da BirdLife em STP, no sentido de um envolvimento de parceria a longo prazo (SO8).

A estratégia formaliza uma mudança para uma abordagem programática em São Tomé e Príncipe; para assegurar a coerência das ações lideradas para a conservação da biodiversidade, para garantir as capacidades necessárias e para, em última análise, acolher uma organização nacional na parceria BirdLife.

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## ACRONYMS & ABBREVIATIONS

ADAPPA	Ação para o Desenvolvimento Agropecuário e Proteção Ambiental
AfDB	African Development Bank
AMP	Associação Monte Pico
APT	Associação Programa Tatô
AZE	Alliance Zero Extinction
BAF	Blue Action Fund
CADR	Centro de Apoio ao Desenvolvimento Rural
CATAP	Centro de Aperfeiçoamento Técnico Agropecuário
CBGG	Centro de Biodiversidade do Golf de Guiné
CEPF	Critical Ecosystem Partnership Fund
CE-PNOT	Célula de Execução do Plano Nacional de Ordenamento do Território
CIAT	Centro de Investigação Agronómica e tecnológico
CN-UNESCO	Comissão Nacional da UNESCO
CNMC	Comité Nacional para as Mudanças Climáticas
CR	CRitically Endangered
DADR	Direção da Agricultura e Desenvolvimento Rural
DD	Data Deficient
DFB	Direção das Florestas e da Biodiversidade / Directorate of Forests & Biodiversity
DGA	Direcção-Geral do Ambiente
DGP	Direção Geral das Pescas
DGRNE	Direção-Geral dos Recursos Naturais e Energia
DGTH	Direcção-Geral do Turismo e Hotelaria
DRACN	Direção Regional do Ambiente e Conservação da Natureza
DRAPDR	Direção Regional de Agricultura, Pescas e Desenvolvimento Rural
DRTCIC	Direção Regional de Turismo, Comércio, Indústria e Cultura
DSGC	Direção dos Serviços Geográficos e Cadastrais
EBA	Endemic Bird Area
EEZ	Exclusive Economic Zone
EMAE	Empresa da Agua e Eletricidade
EN	ENdangered
EU	European Union
EUD	European Union Delegation
FA	Forças Armadas
FAO	Food & Agriculture Organization
FeNaPA	Federação Nacional dos Pequenos Agricultores
FFI	Fauna & Flora International
FONG-STP	Federação de Organizações Não Governamentais em São Tomé e Príncipe
GEF	Global Environment Facility
HCV	High Conservation Value
IAS	Invasive Alien Species
IBA	Important Birds & Biodiversity Area
ICCAT	International Commission for the Conservation of Atlantic Tunas
IFAD	International Fund for Agricultural Development
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
LC	Least Concern
LDC	Least Developed Country
MAPDR	Ministério de Agricultura, Pescas e Desenvolvimento Rural
MARAPA	MAR Ambiente Pesca Artesanal
MBG	Missouri Botanical Garden
MOPIRNA	Ministério de Obras Públicas, Infraestruturas, Recursos Naturais e Ambiente
NBSAP	National Biodiversity Strategies and Action Plan
NGO	Non-Governmental Organization
NP	Natural Parks

ODA	Official Development Assistance
PAPAC	Projeto de Apoio à Pequena Agricultura Comercial
PA	Protected Area
PN	Polícia Nacional
PNDF	Plano Nacional de Desenvolvimento Florestal
PNOST	Parque Natural Obô de São Tomé
PNP	Parque Natural do Príncipe
PNRFP-STP	Plataforma Nacional de Restauração Florestal e Paisagística de São Tomé e Príncipe
PTRS	Plataforma do Turismo Responsável e Sustentável
RAP	Região Autónoma do Príncipe
RSESD	Regional Secretariat for the Environment and Sustainable Development
SDG	Sustainable Development Goals
SIDS	Small Island Developing State
SO	Strategic Objective
STP	Democratic Republic of São Tomé & Príncipe
SRADS	Secretaria Regional do Ambiente e Desenvolvimento Sustentável
SREC	Secretaria Regional da Economia e Cultura
UNDP	United Nations Development Programme
USTP	University of São Tomé e Príncipe
VU	Vulnerable
WBG	World Bank Group
ZATONA-ADIL	Apoio ao Desenvolvimento de Iniciativas Locais

## I. DEVELOPMENT CHALLENGE

### A. Context and overall development challenge

The Democratic Republic of São Tomé and Príncipe (STP) is a Small Island Developing State (SIDS) located between 220 and 350 km off the coast of western central Africa in the Gulf of Guinea (Fig. 1). STP forms part of a chain of extinct volcanic islands stretching from Mt Cameroon in a south-south-westerly direction: first Bioko (Equatorial Guinea), then Príncipe, then São Tomé a further 146 km away straddling the equator, and finally Annobón (Equatorial Guinea). The nearest countries on the continent are Gabon, Equatorial Guinea, Cameroon and Nigeria. The islands have never been in contact with the African mainland, from which they are separated by ocean depths in excess of 3000 m.

STP is Africa's second-smallest country, after the Seychelles. Its total land area is 1001 km<sup>2</sup>, and its coastline 209 km long. The main island São Tomé has a land area of 859 km<sup>2</sup> with a highest point of 2,024 m (Pico de São Tomé); the island of Príncipe has a land area of 142 km<sup>2</sup> with a highest point of 948 m, and there are c. 20 associated mostly uninhabited islets.

STP is a former Portuguese colony that achieved independence in 1975.

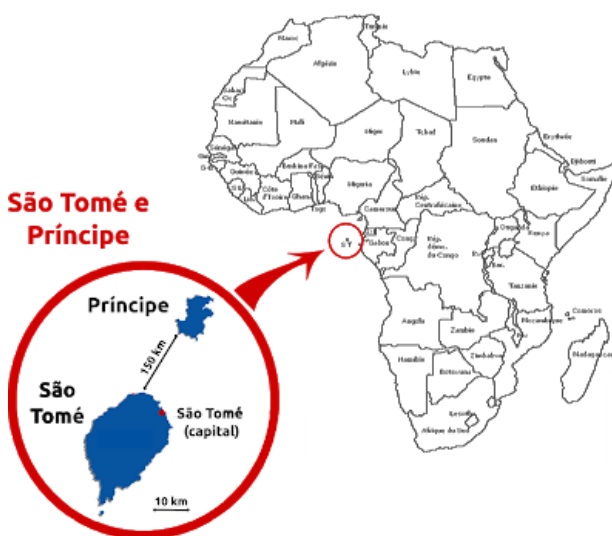


Figure 1: Location and characterization of São Tomé and Príncipe

STP has a human population of c. 200,000, of which c. 10,000 live on Príncipe. The islands are small with a high population density at 200 inhabitants/km<sup>2</sup> in São Tomé and 53 inhabitants/km<sup>2</sup> in Príncipe. Population growth is also high with a rate of between 1.7% (CIA World Factbook) and 2.5% (INE 2012), and more than 60% of the population is under the age of 25. The labour force is estimated at 72,600 (2016, CIA World Factbook). The northern areas of both islands have the highest population densities. São Tomé, the capital city, has a population of around 67,000 (2012 census), while Santo Antonio, the largest town on Príncipe, has a population of 2,620 (2012 census). The island of São Tomé is administratively divided into 6 districts: Agua Grande, Cantagalo, Caué, Lemba, Lobata, Me-Zochi; while the island of Príncipe was designated a single-district autonomous region in April 1995.

STP is a Least Developed Country (LDC) with a small economy and about half or more of the population living below the poverty line (40-70% depending on the source). In 2017, the country's GDP was USD 393 million (USD 686 million PPP) and its GDP/capita USD 3,200 (PPP). GDP growth has been strong over the last years at around 4-5%. The contributions by sectors to GDP were 73% from services (incl. 14% from tourism), 15% from industry (light construction, textiles, soap, beer, fish processing) and 12% from agriculture.

In recent years, the government's annual budget has been around USD 110 million, of which 90-95% have stemmed from development assistance, noting that aid and investment inflows have been volatile. With a public debt burden of around 90% of GDP (CIA World Factbook), STP has had difficulty servicing its external debt and has relied heavily on concessional aid and debt rescheduling. The country is engaged in austerity measures in line with recommendations by the IMF under a three-year extended credit facility, which involved a recent ban on public service recruitments.

While other sectors dominate GDP, STP's primary foreign currency earnings have been based on plantation agriculture. In 2017 exports amounted to c. USD 16 million, especially from the export of cocoa beans (68% in 2010 per CIA World Factbook, 95% by INE 2015) but also coconut/copra, coffee, palm oil/kernels, cinnamon, pepper, and vanilla. Agriculture accounts for a significant share of employment on STP – depending on the information source between 26% of the labour force (incl. fisheries and forestry, CIA World Factbook; which would represent c. 18,000 people) and around 60% of the active population (de Carvalho, 2018; which would represent c. 40,000 people).

The foremost priority of the Government of STP is to expand existing and develop new sources of economic growth and development, to provide employment to its citizens and raise living standards including through a stable provision of electricity. The Government aims to become an international logistical hub and has signed an agreement with China to build a deep-water port for that purpose. At the same time, the Government of STP seeks to further develop fisheries, another major economic activity of critical importance for food security in the country yet not presently important in terms of exports and foreign earnings. Another key objective is to raise production and revenue from plantation agriculture. Significant revenue opportunities also exist in the exploitation of oil & gas resources in STP's territorial waters in the oil-rich Gulf of Guinea, some of which are being jointly developed with Nigeria; production is several years off but expected to take off at some point. Most recently, and in light of the global crisis associated with COVID19, STP Government's discourse has focused on food self-sufficiency. At the same time, STP portrays itself as a paradise archipelago and has committed to preserve its unique natural heritage. The island of Príncipe has an ambitious sustainability plan, Vision 2030, and after a successful campaign was declared as a UNESCO Biosphere Reserve in 2012. The islands offer considerable potential for further development of tourism, and the Government has taken steps to expand tourist facilities in recent years.

**The overall development challenge is how to reconcile the different streams of development objectives and investments, most of which depend on natural resources and ecosystem services and can have negative impacts on these. Without a dedicated and continuing effort to protect the islands' ecosystems and renewable natural resources, continuing population growth and business-as-usual short-term economic development objectives are likely to lead to the same environmental degradation increasingly observed on other remote island states. This will undermine long-term sustainability and the achievement of the SDGs as well as STP's international commitments under the Rio Conventions. The limited resources that the Government of STP has at its disposition make this particularly difficult.**

## B. Terrestrial and coastal biodiversity

### Key biodiversity summary

Despite STP's small size, the islands' tropical climate and mountainous relief as well as their geographical location and isolation from the African continent have given rise to a remarkable wealth of biodiversity. Sometimes referred to as the "Galapagos of Africa", STP has globally outstanding levels of endemism (Jones, 1991) among birds, amphibians, plants, bats, reptiles, butterflies and molluscs, most of which are associated to the various forest ecosystems that still cover most of the islands (Jones, 1994). As a result:

- STP is part of the Guinean Forests of West Africa biodiversity hotspot (Myers et al. 2000);
- The São Tomé, Príncipe and Annobón moist lowland forests (AT0127) are part of the Congolian Coastal Forests, which are amongst the 200 most threatened WWF terrestrial ecoregions of the world (Olson & Dinerstein 2002), and have been identified as among the most important ecoregions for the conservation of forest-dependent birds worldwide (Buchanan et al. 2011);
- STP has been recognized as Centre of Plant Diversity (WWF & IUCN 1994-1997);
- São Tomé and Príncipe are each classified as an Endemic Bird Area (EBA), with "São Tomé Island" (EBA-082) listed as "Critical" and "Príncipe Island" (EBA-083) listed as "Urgent" in terms of conservation need (Stattersfield & al., 1998; BirdLife International, 2019);
- STP holds two Alliance for Zero Extinction (AZE) sites: the São Tomé Uplands, covering 4,839 hectares triggered by the Endangered São Tomé Shrew *Crocidura thomensis* and São Tomé Giant Reed Frog *Hyperolius thomensis*; and the São Tomé lowlands, covering 21,832 hectares triggered by the Critically Endangered Dwarf Olive Ibis



*Bostrychia bocagei*, São Tomé Fiscal *Lanius newtoni* and São Tomé Grosbeak *Crithagra concolor* (AZE 2019). All AZE sites designated before December 2016 are considered as KBAs

- STP holds seven Key Biodiversity Areas (KBAs – Fig. 2) – six of which are also Important Bird and Biodiversity Areas (IBAs) (BirdLife International 2019):
  1. **São Tomé Low Forest (KBA 6881, IBA ST001)**, located in the southwest of the island, between the Binda and Quija rivers, the west coast until the confluence of the Ana Chaves and Ió Grande rivers; the area includes the most central part of the Obô São Tomé Natural Park (Pico de Cabumbé, 1,403 m); the southern slopes of the Pico de São Tomé massif delimit it to the north; near the coast, some areas of secondary forest in the Binda, São Miguel and Quija streams belong to the site.
  2. **São Tomé Montane and Cloud Forests (KBA 6882, IBA ST002)**, which includes the highest areas above 1,000 m in the northern part of the Obô São Tomé Natural Park (peak of São Tomé - 2,024 m, Calvário - 1,594 m and peak Ana Chaves - 1,630 m, Amélia Lagoon).
  3. **São Tomé Northern Savannahs (KBA 6883, IBA ST003)**, which covers 526 hectares on the north coast between Lagoa Azul and Diogo Nunes and includes the vegetation of dry forest and shrubby and herbaceous savannah.
  4. **São Tomé Obô Natural Park & Buffer Zone (KBA 45720, IBA)**, which covers 45,132 hectares mostly superimposed - over other KBAs.
  5. **Malanza River Mangrove Ecological Zone (KBA 45721)**.
  6. **Príncipe Forests (KBA 6884, IBA ST004)**, covering the southern third of Príncipe from sea level to the summit of the 948m Pico do Príncipe; four other peaks greater than 500 m are included: Mesa (537 m), Pico Papagaio (680 m), Carriote (839 m) and Pico Mencerne (921 m).
  7. **Tinhosas Islands (KBA 6885, IBA ST005)**, with Tinhosa Pequena (3 ha) and Tinhosa Grande (20 ha) located 22 km south-south-west of Príncipe.

BirdLife is currently working with local authorities to review the KBA network to make sure it is aligned with current international standards and national expectations.

- Worldwide, the São Tomé Obô and Príncipe Natural Parks taken together are considered the 32<sup>nd</sup> most important protected area for the conservation of mammals, birds and amphibians, the 17<sup>th</sup> if only threatened species are accounted for, and the 2<sup>nd</sup> for the conservation of threatened bird species (Le Saout et al. 2013);

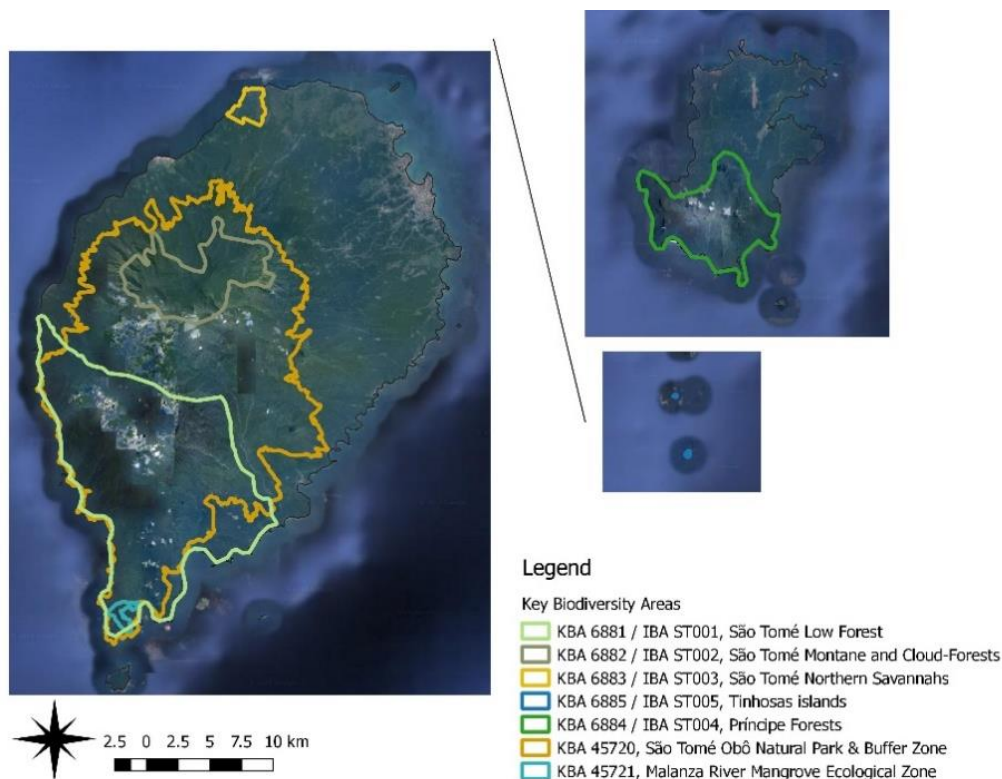


Figure 2: Key Biodiversity Areas of São Tomé and Príncipe

## Forest types and cover

Apart from some tiny areas of sand dunes on the coast, STP's original vegetation was entirely made up of tropical forests, which can be classified as (Exell 1944):

- **Lowland forest**, from 0 to 800 m altitude: similar to most nearby continental forests.
- **Montane forest**, from 800 to 1400 m altitude: presents a transition of species, with greater variety than lower altitudes, but with a similar general appearance. The trees are tall (30 to 40 m) with dense canopy and the regular fogs favours the development of tree ferns, epiphytes, vines and ferns, which cover the trunk of the large trees.
- **Mist forest**, from 1400 to 2024 m altitude: Characterised by high rainfall and humidity, with constant fog and low temperatures, making the trees smaller – rarely exceeding 10 m. Epiphytes, namely orchids and ferns, have an important place in these formations.
- **Coastal formations**, including riparian forests and mangrove areas: The mangrove occupies small areas; some of the most important include Malanza, Angolares, Praia Grande and Água-Izé.

The status and distribution of STP's forests has been exposed to centuries of human occupation. Discovered by Portuguese navigators at the end of the 15<sup>th</sup> century, the islands have been used to produce plantation crops. Numerous exotic species were introduced (Monod, 1960), modifying and disturbing the ecological balance. As a consequence, most native lowland and montane forests have disappeared, especially in the drier northern and eastern sections of the islands. Large part of the central, southern and western parts of both islands are covered by mature secondary lowland forests, resulting from agricultural abandonment. Most montane and mist forests remain well preserved, particularly at higher altitudes and in the most rugged terrain.

According to the degree of anthropogenic modification, STP can also be classified as (Jones, 1991):

- **Native forest** (*obô* or *ôvyô*), includes forest areas that have never been cultivated, with little human interference, made up of natural vegetation, with the sporadic presence of some species introduced and favoured by human action. Typically located in extremely rugged terrain, which has protected them from anthropogenic impacts.
- **Secondary forest** (*capoeira*), includes formations resulting from regeneration after human interference. These can be of variable age, and typically have a smaller number of large trees and a significant proportion of introduced species, many of which also occur in shade plantations, where coffee or cocoa are grown. The first areas of coffee and cocoa to have been abandoned are often those located on soils with marginal aptitude, steeper slopes, difficult access, and closer to native forest, therefore constituting a transition and protection strip for those formations. Secondary forests often host many endemic species and buffer native forest from human influence.
- **Shade plantations (agroforest)**, typically marked by the presence of cocoa or coffee crops with a shade canopy of varying density of natural and introduced species but mainly introduced *Erythrina* sp.. These plantations covered about 70% of STP in the mid-nineteenth century and remain of key importance until today, despite unsuccessful attempts to reduce shade, which resulted in reduced soil fertility and crop production, and in strong attacks from Thrips and Armillaria infections. Shade species, besides improving cocoa production, often contribute to food and timber production.
- **Savannah and other non-forest areas**. These include most of the north-east of São Tomé (Praia das Conchas and Lagoa Azul areas across to Água Izé), the driest region of the country (<1,000 mm/year), with two well marked dry seasons and the flattest relief of the archipelago. It is covered by a mosaic of herbaceous savannah interrupted by small tree and shrub formations that, due to the absence of a continuous tree cover, contrast strongly with the rest of the country. These formations result from intense deforestation and frequent fires that have been practised since the beginning of human colonisation, initially driven mostly by sugar cane cultivation.

STP's latest official Forest Resources Inventory dates to 1999 (REF). However more recent estimates are available (Tab. 1 & 2, and Fig. 3 – Soares 2017, DFB 2019, Freitas 2019), and show a high shade plantations cover, at 29-32%.

Table 1: São Tomé and Príncipe forest area in 2015 (estimated by Directorate of Forests and Biodiversity, 2019)

Forest type	Area (ha)	Area (%)
Native forest	28,000	28.3
Secondary forest	27,000	27.3
Shade plantation	32,000	32.3
Non-forest areas	12,000	12.1
<b>Total</b>	<b>99,000</b>	<b>100</b>

Table 2: Forest area in São Tomé in 2014 (Soares 2017) and Príncipe in 2016 (Freitas 2019)

#	Name	Príncipe Island			Sao Tomé Island			Total		
		Area (ha)	Distribution (%)		Area (ha)	Distribution (%)		Area (ha)	Distribution (%)	
1	Native forest	3,478.50	25.0%	90.8%	22,607.80	26.4%	85.5%	26,086.30	26.2%	86.2%
2	Secondary forest	4,926.96	35.4%		26,120.30	30.5%		31,047.26	31.2%	
3	Shade plantation	4,237.13	30.4%		24,418.25	28.5%		28,655.38	28.8%	
4	Non-forest areas	1,274.41	9.2%	9.2%	12,423.30	14.5%	14.5%	13,697.71	13.8%	13.8%
	<b>TOTAL</b>	<b>13,917</b>	<b>100.0%</b>	<b>100.0%</b>	<b>85,569.65</b>	<b>100.0%</b>	<b>100.0%</b>	<b>99,486.65</b>	<b>100.0%</b>	<b>100.0%</b>

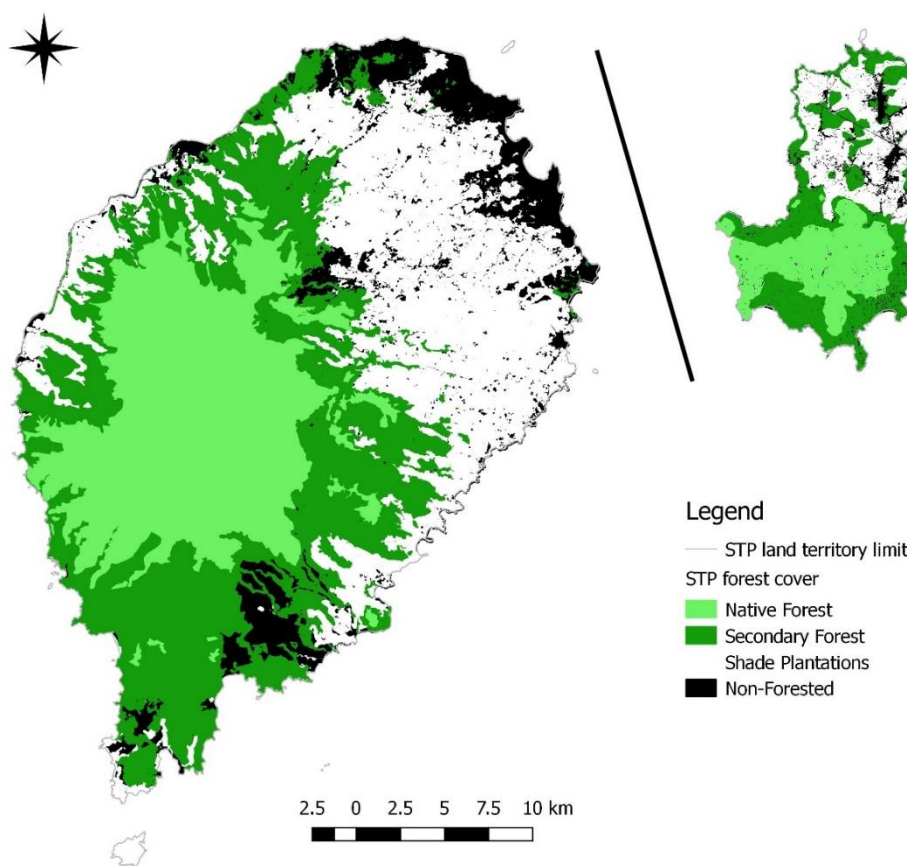


Figure 3: Land cover with forest area in São Tomé (2014; from Soares 2017) and Príncipe (2016; from Freitas 2019)

### Plant diversity

STP has around 1,200 known plant species, of which around 900 are thought to be indigenous and the remaining 300 introduced (REF). There are 148 described endemic plant species (14% of the national flora), of which 50 are restricted to Príncipe, 98 are restricted to São Tomé and 25 are shared endemics (Figueiredo & al., 2011). The most diverse angiosperm families are Rubiaceae (27 species), Orchidaceae (135 species with 35 / 23% endemic), Euphorbiaceae (11 endemic species), Melastomataceae (17 species with 8 / 47% endemic) and Begoniaceae (11 species with 6 / 55% endemic). Only 90 STP plant species have been assessed regarding their conservation status on the global IUCN Red List, including a few endemic taxa, and many outdated assessments – IUCN 2020).

## Terrestrial fauna diversity

STP has a species poor but endemic-rich fauna. Knowledge of invertebrates is still limited, and a comprehensive study is required to provide an overall understanding of presence and distributions of invertebrates, as well as their conservation status. However, isolated studies have established *inter alia* that endemism is high among land snails, with 62 species endemic to São Tomé, Príncipe and Annobón, including one endemic family and six endemic genera (Gascoigne, 1994; Holyoak, 2020); and that among butterflies, São Tomé has 64 endemic species and Príncipe 45, 28 of which are shared among them (Pyrzcz, 1992 in Carvalho, 2015; versus NBSAP 2015-2020: 89 species of butterflies in STP, 47 in ST and 42 in Príncipe with an endemism rate of 38% and 21% respectively).

Native vertebrates include 60 endemic taxa. On São Tomé, native terrestrial mammals include 2 endemic shrews (São Tomé Shrew *Crocidura thomensis* EN and Fingui White-Toothed Shrew *Crocidura fingui* on Príncipe) and at least 10 bat species (4 endemic species and 1 endemic subspecies, including São Tomé Collared Fruit Bat *Myonycteris brachycephala* EN and São Tomé Free-tailed Bat *Chaerephon tomensis* EN; versus NBSAP 2015-2020: two species and three endemic subspecies on ST, and one endemic species and one endemic subspecies on Príncipe).

Aside from bats and shrews, all other mammals were accidentally or deliberately introduced after the arrival of the human colonizers in 1471. Introduced species include many domestic animals, some of which have feral populations, namely dogs, cats and pigs, and a wide variety of other species, namely rodents, African Civet (*Civettictis civetta* LC), Least Weasel (*Mustela nivalis*) and Mona Monkey (*Cercopithecus mona* LC).

The terrestrial and freshwater herpetofauna of STP consists of 28 species (Ceríaco, 2018), including 22 reptiles, of which 18 are endemic including all eight snake species: São Tomé Cobra *Naja peroescobari*, São Tomé House Snake *Boaedon bedriagae*, and São Tomé Wood Snake *Philothamnus thomensis* on São Tomé; Fea's Beaked Snake *Letheobia feae* and Newton's Beaked Snake *Letheobia newtoni* on both São Tomé and Príncipe islands; Príncipe Green Snake *Hapsidophrys principis*, Elegant Worm Snake *Afrotyphlops elegans* and an undescribed species of brown house snake *Boaedon* sp. on Príncipe. Other endemic reptiles are Greeff's Giant Gecko *Hemidactylus greeffii*, Príncipe Giant Gecko *Hemidactylus Príncipeensis*, Príncipe Burrowing Skink *Feylinia polylepis*, Guinea Lidless Skink *Panaspis africanus*, São Tomé Leaf-litter Skink *Panaspis thomensis*, Adamastor Skink *Trachylepis adamastor*, *Trachylepis Príncipeensis*, *Trachylepis thomensis*. In addition, there 8 amphibians all of which are endemic: São Tomé Caecilian *Schistometopum thomense* LC in ST; Peters' River Frog *Phrynobatrachus dispar* LC in STP; São Tomé Puddle Frog *Phrynobatrachus leveleve* LC in ST; Newton's Grassland Frog *Ptychadena newtoni* EN in ST; São Tomé Oceanic Treefrog *Hyperolius mollerii* LC in ST; São Tomé Giant Reed Frog *Hyperolius thomensis* EN in ST; as well as Drewes' Reed Frog *Hyperolius drewesi* DD and Palm Forest Tree Frog *Leptopelis palmatus* VU endemic to Príncipe. The IUCN conservation status has not been reliably assessed for most of these taxa (IUCN, 2020).

The islands harbour at least 89 species of birds that occur regularly (BirdLife International, 2020). Out of 62 land species 28 are country endemics: 18 on São Tomé, 8 on Príncipe and 2 shared between the two islands. The São Tomé Bronze-naped Pigeon (*Columba malherbii*) is an additional endemic species, shared with the nearby Annobón Island. 13 species (15%) are globally threatened (4 CR, 5 EN, 4 VU; plus 4 NT), including the Dwarf Olive Ibis *Bostrychia bocagei* CR, São Tomé Grosbeak *Crithagra concolor* CR, Newton's [São Tomé] Fiscal *Lanius newtoni* CR, Príncipe Thrush *Turdus xanthorhynchus* CR, São Tomé Olive-pigeon *Columba thomensis* EN, São Tomé Green-pigeon *Treron sanctithomae* EN, Cape Gannet *Morus capensis* EN, Grey Parrot *Psittacus erithacus* EN, Príncipe White-eye *Zosterops ficedulinus* EN, São Tomé Short-tail *Amaurocichla bocagii* VU, São Tomé Scops-owl *Otus hartlaubi* VU, São Tomé Oriole *Oriolus crassirostris* VU, and finally the world's largest sunbird Giant Sunbird *Dreptes thomensis* VU (<http://datazone.birdlife.org/country/sao-tome>). Despite being by far the most studied taxa in STP, many species have been described in recent years, and others are still being described (e.g. Freitas, 2019). BirdLife maintains a database of sightings of birds considered as Critically Endangered (Fig. 4).



Figure 4: Records of Critically Endangered Birds (BirdLife International 2019, unpublished database)  
 The orange dotted line shows the (poorly defined and poorly demarcated) buffer zone.

The breeding avifauna encompass forest, savannah, water, shore and seabird species. Most of the endemics are found in the forests, but many can also occur and even thrive in anthropogenic land uses (Dallimer et al., 2012; Soares et al., 2020). Around 60 bird species, as well as the endemic bat *Chaerephon tomensis*, have been described in the savannah ecosystem of São Tomé, including 3 species of global conservation concern and several restricted-range species. However, it is probable that most or all the 16 savannah species were originally introduced by man at least a century ago, as cage or gamebirds.

The Tinhasas Islands, next to Príncipe are the largest seabird colonies in tropical eastern Atlantic Ocean. Surveys conducted in 2017 (Bollen et al. 2018) revealed eight seabird species, of which six were confirmed breeding. Around Príncipe, Boné de Joquei is the present main stronghold for Brown Boobies *Sula leucogaster* and White-tailed Tropicbirds *Phaethon lepturus*. The important Tinhasas Islands hold an estimated 300,000 seabirds, predominantly Sooty Terns *Onychoprion fuscatus*, but also Brown Boobies, Black Noddies *Anous minutus* and Brown Noddies *Anous stolidus* (Valle & al., 2016). The more accessible seabird colonies have disappeared. Small islets surrounding São Tomé also hold important seabird colonies (Monteiro et al., 1997), and there is strong evidence that a population of Band-rumped Storm Petrels *Hydrobates* sp. nests in the main island (Flood et al., 2019).

Bird endemism in STP has led to the recognition of five IBAs on the islands - five IBAs qualify as IBAs under both the A1 (globally threatened) and A2 (range restricted) criteria, while the sixth, Tinhasas Islands, qualifies under various A4 (assemblages or congregations) criterion.

### C. Marine biodiversity and fisheries

The archipelago of STP has a large maritime territory of 160,000 km<sup>2</sup>, however, its marine ecosystems/biodiversity and resources remain relatively poorly studied and understood.

STPs maritime territory holds or forms part of two Ecologically and Biologically Sensitive Areas (EBSAs):

- The Tinhosas Islands located between São Tomé and Príncipe, which provide important nesting habitat for over 300,000 migratory seabirds but also attract key marine megafauna.
- The Equatorial Tuna Production Zone, which encompasses portions of the coastal waters of Gabon, Congo, Equatorial Guinea and STP, and is important for the life cycles of several large, commercially valuable, pelagic, migratory fish species.

Noteworthy established records include Scalloped Hammerhead Shark *Sphyrna lewini* EN, Sunfish *Mola mola*, Whale Shark *Rhincodon typus*, and Manta Ray *Manta sp.* There are important nursing and recovery sites for Humpback Whale *Megaptera novaeangliae*. The coral reefs support great marine biodiversity including threatened fish species of high importance in terms of ecosystem functionality and composition, such as Atlantic Blue Marlin *Makaira nigricans*, Oceanic Whitetip Shark *Carcharhinus longimanus*, Sandbar Shark *Carcharhinus plumbeus* and Sand Tiger Shark *Carcharias taurus*.

Marine surveys conducted around Príncipe in 2016 identified key biodiversity areas in the Baía das Agulhas (West) and Baía de Abade (East). In Príncipe and in the south of São Tomé (Caué district), there is considerable overlap between the key areas of ecological importance and the preferred fishing sites, which negatively impacts resident, transient and migratory species.

Of the seven species of sea turtles globally, five occur in STP including four that nest on the islands' beaches (Fig. 5):

- Loggerhead *Caretta caretta* VU the only species not nesting;
- Hawksbill *Eretmochelys imbricata* CR, which on São Tomé most often uses the beaches of the southern part;
- Leatherback *Dermochelys coriacea* VU, which on São Tomé equally most often uses the beaches of the southern part;
- Green Turtle *Chelonia mydas* EN, quite common on the beaches of São Tomé and Príncipe; and
- Olive Ridley *Lepidochelys olivacea* VU, which uses the beaches of the north of the island of São Tomé to breed.

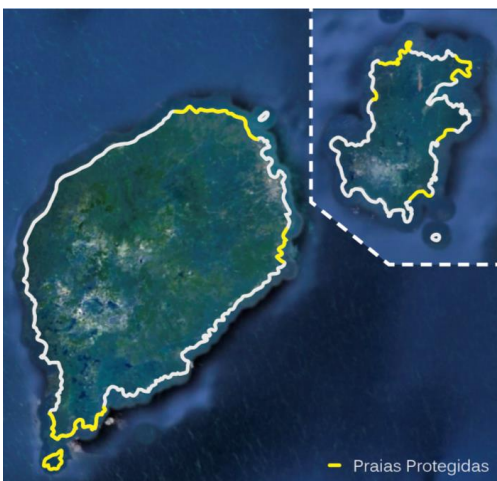


Figure 5: Protected beaches, of priority importance for sea turtles nesting in STP (Programa Tatô)

STP's fisheries resources were vast, however statistics are poor and inconsistent. Fishing potential was estimated to be between 12,000 tonnes/year (Fisheries Directorate) and 29,000 Tonnes/year (large pelagic 17,000, coastal pelagic 4,000, demersal 2,000, cephalopod 6,000; ICCAT).

Approximately 5,000 people are involved in local fisheries and sales, and a further 30,000 people benefit economically, indirectly, from this activity. Fishing is primarily artisanal and the organisation of the sector very rudimentary. While semi-industrial fisheries are only emerging, STP has no national industrial fishing vessels but enters into fishing agreements with countries and foreign operators with industrial fishing fleets. There are 44 landing sites (29 on São Tomé and 15 on Príncipe).

The population of STP largely depend on fish consumption, with an average of 24 kg/capita/year, well above the world average of 17 kg/capita/year and the average in Africa of 8 kg/capita/year. This represents 70% of the animal protein ingested by the population (compared to globally, only c. 15%). Fisheries resources are therefore critical for food security and nutrition in STP.

#### D. Agriculture and land use

Agriculture in STP has long been dominated by cash crops, most notably sugar cane, coffee and cocoa. Today, cocoa remains the main crop representing between 68-95% (depending on information source) of the export income generated (see Fig. 7). The remaining export crops are coffee, coconut, palm oil, flowers, pepper, cinnamon, vanilla and other spices. The production for the local food market focuses especially on banana, rice, tubers, beans, cassava, vegetables and breadfruit. Most of the rural population engaged in agriculture do so in a context of subsistence economy in which self-consumption predominates and only production surplus is sent to markets for sale. Transformation resources are limited and rudimentary (PNOT 2018). Food production is insufficient to meet domestic demand and most food must be imported to the country. Increasing production across the different agricultural sub-sectors to enhance food security and income levels is a key priority.

The agricultural production systems include:

- i. Annual and perennial crop systems (with tree cover removed; including mixed horticultural production areas at 700-1000m, other crops like pepper and vanilla at 200-600m, and monospecific plantations at lower elevations of sugar cane, coconut palm, oil palm on São Tomé [AgriPalma], and pineapple);
- ii. Different agroforestry systems: cocoa, sometimes in association with banana and matabala<sup>1</sup>; coffee, sometimes in association with banana and matabala; coconut, sometimes in association with cocoa; and palms in association with cocoa. Figure 3 above shows how agroforestry/shade plantations dominate the landscape in STP, and Figure 6 shows how much of this are cocoa plantations (cacausal) in São Tomé and Príncipe.

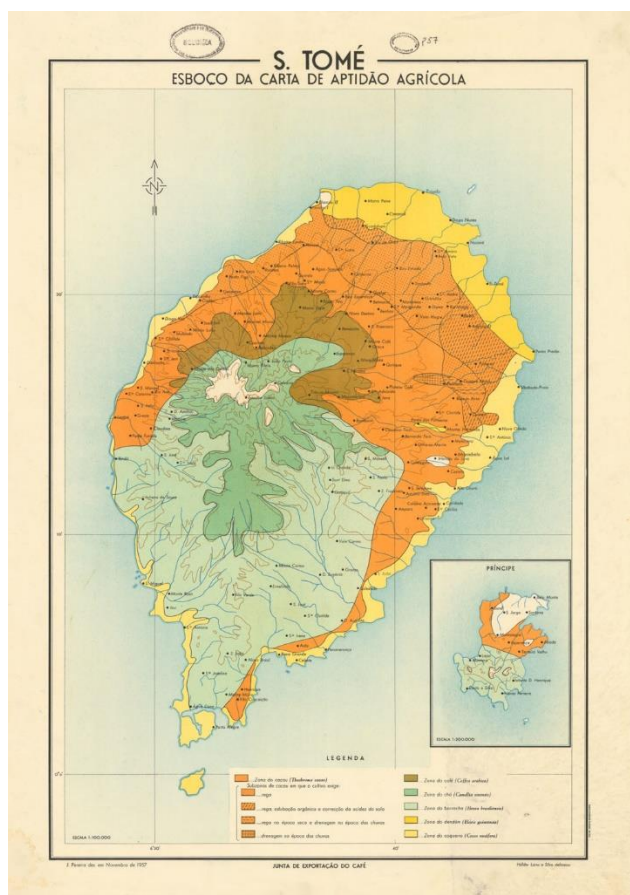


Figure 6: Agricultural zoning in Sao Tomé, showing especially the prevalence of cocoa shade plantations (cacausal)

<sup>1</sup> Taro *Colocasia esculenta* or Cocoyam *Xanthosoma sagittifolium*

Today there are four types of rural land ‘ownership’ in STP (see distribution in Fig. 8):

- Private plantations claimed by a few families from before independence, called *glebas* (8 *glebas* @ 284 ha average = c. 2,300 hectares);
- Private smallholder plots distributed to family farms under a World Bank land reform in the early 1990s (c. 12,000 plots @ 1.7 hectares average = c. 20,000 hectares);
- Private medium-size plots distributed to private enterprises/investors under the said land reform (162 plots @ average 43 hectares = c. 7000 hectares);
- A few larger plantations newly granted to larger enterprises and cooperatives, such as Agripalma (oil palm, 2,100 hectares planted of the 4,917-hectare concession in the south of São Tomé);
- Public lands (much of which is under forest).

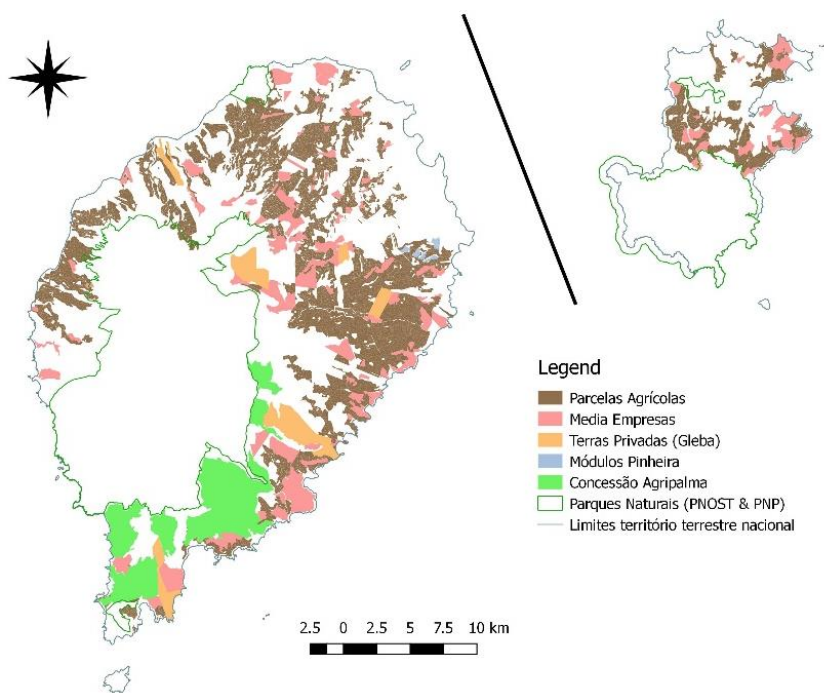


Figure 7: São Tomé & Príncipe 2014 cadastre (incomplete and somewhat erroneous but best available data)

As per the above, about a third of STP’s land area is under private agricultural plots. The tenure of the plots distributed under the 1990s land reform is not passed on to the next generation, which creates a fragile situation and discourages investment. Compounded by limited financial and technical support, this had led to a gradual decline in cash crop production over the last decades (especially cocoa, Fig. 6) as well as to an over-exploitation of natural resources in the aforementioned plots. Many small and medium sized plots and *glebas* have been abandoned (needs assessment but estimated 40% on Príncipe). Most of the country’s agricultural infrastructure is in poor condition, except for those associated with export crops held by larger enterprises and/or cooperatives. Smallholder farms are expanding at an alarming rate; with a short-term vision of agricultural exploitation, due to the 'non-transferability' of land titles, which encourages the unregulated felling of trees on the plots (degradation of canopy cover in agro-forest) and further soil degradation. There are no verifiable sources on the growing agricultural footprint in STP.

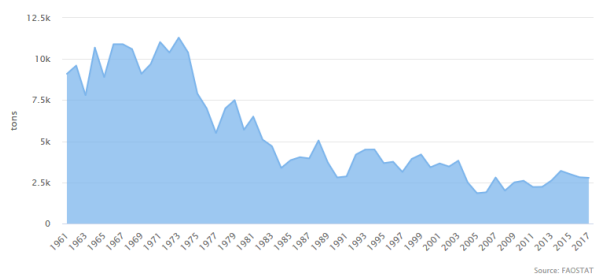


Figure 8: Cocoa beans production quantity on São Tomé



Livestock production is modest providing 14% of agricultural production and 3% of GDP, with production meeting the essential food needs of the population. About half of farming families produce livestock and the vast majority are backyard farmers; of these, more than half are women.

Agricultural land use data from 2011 indicates that about 51% of STP's land area was used for agriculture; considering both actively cultivated agroforest and opportunistic collection in secondary forest (Tab. 2)– 41% for permanent crops, 9% for annual crops and 1% for permanent pasture; 28% were forests and 21% other forms of land use. Irrigated lands were estimated at 100 km<sup>2</sup> (2012).

#### E. Threats to biodiversity and ecosystems

Human activities are causing increasingly harmful impacts on the integrity and long-term outlook of the islands' natural and productive ecosystems.

A comprehensive threat assessment, prepared by BirdLife Sao Tomé Head of Office, Jean-Baptiste Deffontaines, and UNDP Biodiversity expert, Yves de Soye, in the framework of the GEF-funded Biodiversity project 'Enhancing Biodiversity Conservation and Sustainable Land and Natural Resource Management', can be found in **Annex 1** and is summarised in Table 3.

**Table 3: Overview of direct drivers of ecosystem and biodiversity loss**

<i>Category</i>	<i>Current Urgency Ranking (Low – Medium – High)</i>	<i>Threat / direct driver of loss and impact</i>
<b>Terrestrial biodiversity and ecosystems</b>		
1. Land-use change and habitat loss	H	Habitat loss from large-scale infrastructure developments
	H	Forest habitat loss from large-scale agricultural developments
	M-H	Forest, mangrove and savannah habitat loss for small-holder agriculture
	M-H	Loss of sea turtle nesting beaches from sand mining
	M-H	Habitat loss from urbanisation and related infrastructure, especially in coastal and rural areas
2. Natural resource use and over-exploitation	H	Forest degradation from unsustainable and illegal selective logging: Logging for timber
	H	Forest degradation from unsustainable and illegal selective logging: Logging for charcoal-making
	M	Unsustainable exploitation of Non-Timber Forest Product
	M-H	Wildlife hunting and collection
	M	Disturbance from human presence in the forest
3. Pollution	M	Impacts of pesticides on freshwater species
4. Invasive Alien Species	M	Evidence for IAS animals and plants. No evidence yet for systemic and predation impacts yet these can be surmised, with risks for endangered bird species.
5. Climate change	L	Impacts on biodiversity and ecosystems expected, manage for resilience
<b>Marine biodiversity and ecosystems</b>		
1. Habitat loss	M	Limited evidence but impacts can be expected from dynamite fishing and at specific locations from port construction and possibly sedimentation, dredging for harbours & for sand mining
2. Natural resource use and over-exploitation	H	Unsustainable and harmful fisheries and related impacts
	H	Sea turtles: capture, egg collection and bycatch
3. Pollution	M-H	Chemical pollution including pesticides from rivers and urban waste emissaries
	M-H	Plastic pollution
	M	Noise pollution from shipping and seismic activities
	L	Pollution with hydrocarbons from oil & gas exploitation, not yet started
4. IAS	L	No reports yet
5. Climate change	L	Impacts on fish stocks and marine food chain expected, manage for resilience

## F. Key past and ongoing interventions

### Protected areas, buffer zones and HCV forests

#### The National Protected Areas System

In 2006, and as summarised in Table 4 below, under the EU-funded ECOFAC programme, the majority of the best-preserved forests on the two main islands were designated as two Natural Parks (Law n.º 06/2006 / Lei De Parque Natural, Obô, de São Tomé & Law n.º 07/2006 / Lei De Parque Natural, Obô, do Príncipe). In 2012, the entire island of Príncipe, its islets Bom Bom, Boné do Jóquei, Mosteiros, Santana, Pedra da Galei, Tinhosa Grande and Tinhosa Pequena, as well as the surrounding marine habitats were classified as a UNESCO Biosphere Reserve.

Table 4: Existing protected areas in São Tomé and Príncipe

Name	Type	Description	IUCN Cat.*	Size (ha)	Year Established
São Tomé Obô Natural Park (PNOST)	Forest	Central massif, mountainous area in the southern-western centre of ST	II	25,274 ha	2006 (Law 6/2006)
	Savannah Littoral	Protected Landscape Area of Praia das Conchas / Lagoa Azul in northern ST	V		
	Mangrove	Malanza Mangrove Natural Reserve, in southern ST	IV		
Príncipe Natural Park (PNP)	Forest	Park core area, in the south of the island	II	6,500	2006 (Law 7/2006)
	Forest	Azeitona forest, in the northwest of the island	IV		
Príncipe Biosphere Reserve	Forest Coastal Marine	Príncipe and islets Bom Bom, Boné do Jóquei, Mosteiros, Santana, Pedra da Galei, Tinhosa Grande and Tinhosa Pequena, as well as the surrounding marine habitats		71,593 ha	2012, but it has no national legal status

\*Informative - these categories, proposed as part of management plans, are not officially assigned by IUCN

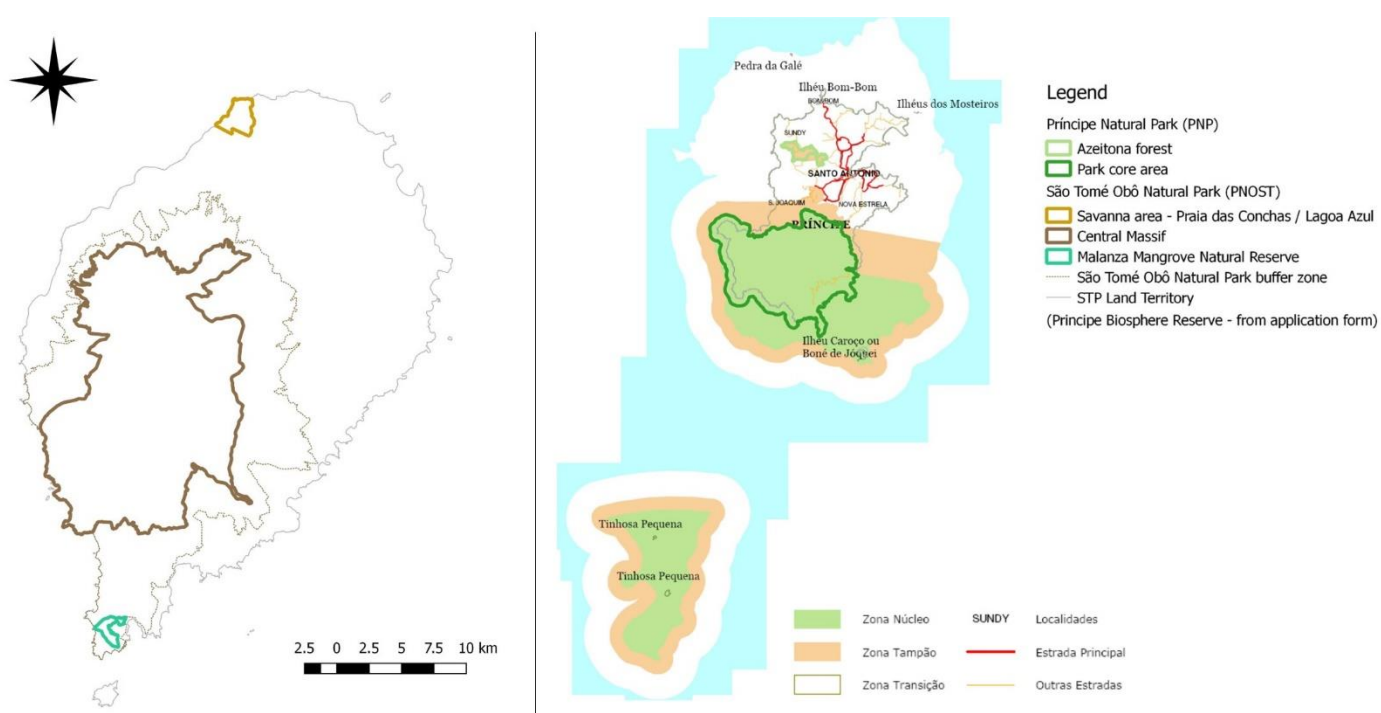


Figure 9: São Tomé (Left) & Príncipe [including zoning of the Biosphere Reserve] (Right) existing Protected Areas

The two Natural Parks each cover nearly one-third of the island on which they are located (see Fig. 9), and their boundaries are well defined in the respective laws.

In addition, these laws provided the delimitation of a transition area or “buffer zone” around the Parks, in which only specific low-impact activities would be allowed: “There shall also be a buffer zone that, except in situations of physical impossibility, extends beyond the limits of the Park, in a strip whose width may vary between 250 meters and 10 kilometres” (RDSTP 2006, Article 5 No. 2). However, the buffer zones were never formally decreed. Law 6/2006 indicated that the “boundaries of the PNOST, as with its protection zone, are indicated in the map annexed to the

*present document*”, yet the annex was not included in the law journal upon publication. As a consequence, the interpretation of the buffer zones has been arbitrary, based on projects and expert opinions and is also not adequately conveyed to stakeholders. Buffer zone maps must therefore be treated with caution, as they do not reflect the reality in legal terms or on the ground.

In addition, the smaller areas of the Natural parks (e.g. Savanna area in Sao Tomé and Azeitona forest on Príncipe) are commonly interpreted as not having buffer zones.

A first set of PA management plans was developed in 2006, which were reviewed and updated in 2010 and again in 2015. The main objectives following the recommendations of the PA Management Plans are:

- Reduce illegal logging and its impacts on the forest ecosystem;
- Prevent the clearing of new forest areas;
- Control the negative impacts of invasive species;
- Protect areas of distribution of endemic and/or threatened species and improve the conservation of ecosystems and endemic species, in and around the Protected Areas, and the protection of important areas for Critically Endangered species;
- Reduce current collection levels and capture pressure on protected species (especially for endangered species); and
- Control the use of Park facilities (trails, infrastructures), particularly for tourism purposes.

However, the latest updates i) do not provide zoning for the diverse and vulnerable habitats/species in the Natural Parks; ii) do not support sustainable land-use in the buffer zone; and iii) do not consider the current capacities of the Protected Areas (de Lima, 2016).

**São Tomé Obô Natural Park (PNOT).** The PNOT presents a discontinuous territory, covering three distinct areas (see Table 4) comprising a total of 25,274 ha. The PNOT has no permanent human settlements and is uninhabited, due to the relief, high rainfall and difficult access. It is these factors that, in general, have ensured the absence of major negative impacts by human action.

The sustainable management of the Park and the surrounding buffer zone should provide overall benefits in terms of biodiversity conservation and ecosystem services, as well as enable and provide socio-economic benefits to communities living near the forest, through co-management and sustainable production of raw materials and Non-Timber Forest Products.

Although the STP government and other stakeholders have shared the aspiration to sustainably manage the PNOT since its designation 13 years ago, the management is not yet operational. The regulation for the PNOT was never decreed and enacted, and the resources and capacities of the authorities for the implementation of the Management Plan are far below needs. Deforestation and forest degradation have been increasing and natural resources are in decline in the Park and especially its buffer zone.

While there is some awareness of the boundaries of the Park which has resulted in limited encroachment from agricultural conversion, no sustainable management rules or practices are applied in areas around the Park. There are no differences in terms of land use and resource exploitation between the buffer zone and the wider agricultural landscape, except for the gradient caused by ease of access. There are significant areas in the buffer zone where forest vegetation has been largely if not entirely removed for farming purposes, logging and charcoal making; this includes most notably the oil palm plantations in southern São Tomé, which converted important buffer zone areas to the border of the PNOT.

**Príncipe Natural Park (PNP).** The Príncipe Natural Park was created with the aim of protecting the most representative ecosystems of the southern zone of the island of Príncipe, occupying one third of the island's surface, including a marine part along the south-western coast of its boundaries.

PNP is divided into two geographically distinct zones; the main section in the south covering the entire mountain region of the island, including Picos do Príncipe, Agulha, João Dias Pai, João Dias Filho, Papagaio, Cariot and Mercene; and the significantly smaller Azeitona Forest in the north-western part of the island.

The southern section of PNP has no permanent human settlements and is uninhabited (except for a semi-permanent fishing community at Praia Grande). This is partly due to the relief, high rainfall and difficult access. It is these factors that have ensured the absence of major negative impacts by human action (Albuquerque & Cesarini, 2009).

The Azeitona forest is separated from the southern block of the PNP and surrounded by communities and private concessions. There is no respect of the Park boundary, as it was never properly enforced, and there has been a continuous invasion of the area, with local communities constructing a growing number of houses. The invasion is happening on all sides but is highest on the road from Ponta do Sol to Sundry Roça (pers. com. Daniel Ramos, Technician of the PNP). Small-scale subsistence agriculture, firewood and charcoal production are encroaching on the Park area. The recent development of the project “Terra Prometida”, which will host more than 100 persons, relocated from Sundry Roça (led by UN-Habitat with funding from a private touristic investment from HBD), in 1 to 2 years (construction undergoing), is situated right at the border of the Azeitona forest, on the other side of the road. It will potentially increase drastically the threat on the northern part of the PNP by increasing pressure on forest resources.

As in the case of the PNOST:

- The buffer zone stipulated in the law was never decreed. The main Park area in the south of the island was meant to be surrounded on its landward northern border by a buffer zone of between 500 and 2000 m, mostly too narrow a strip. There were no plans for a buffer zone around Azeitona Forest. The management plan however stipulates that outside the NP, on the one hand, and outside the urban area of the capital Santo Antonio and the airport, on the other hand, the island should be entirely considered buffer zone (IUCN IV).
- There are no differences in terms of land use and resource exploitation between the buffer zone and the wider agricultural landscape, except for the gradient caused by ease of access. There are areas in the buffer zone where forest vegetation is being reduced for farming purposes and charcoal-making.

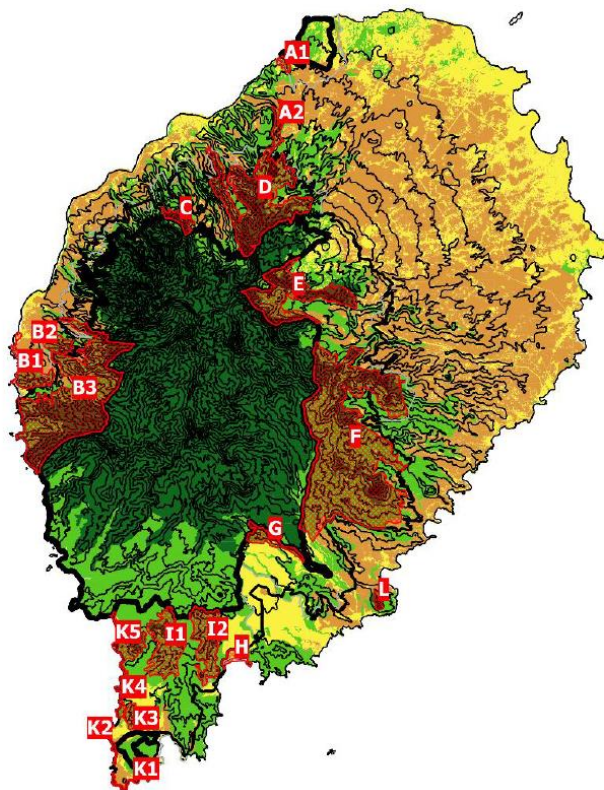
**Príncipe Biosphere Reserve and Marine PAs.** The Biosphere Reserve aims to contribute to the protection, valuation and enhancement of the existing natural heritage through expansion and dissemination of scientific knowledge; and promoting tourism and sustainable development. The designation, supported by UNESCO, reflects a paradigm shift led by the regional autonomous government, as it intends to promote the Biosphere Reserve as an example of sustainable development in action. To date, the Biosphere reserve has no legal status in STP.

The Tinhosas Islands to the south of Príncipe were declared a Ramsar wetland of international importance in 2006 (23 ha, Ramsar Site # 1632). There are presently no marine protected areas in STP. The Príncipe Biosphere Reserve includes a core marine area of 11,199 ha around the south of Príncipe and the Tinhosas Islands, but this was not yet transposed to national law.

**Other areas under permanent conservation regime.** The Forest Law (RDSTP 2001) establishes the existence of the Forest Regime of Permanent Conservation or Non-Productive Protection. This includes forests located on the banks of rivers and watercourses, around lakes, ponds and springs, or any natural or artificial reservoirs, on the tops of hills, mountains and other areas at high altitudes. However, in many cases, these areas have been occupied for agricultural and human settlement purposes, factors that encourage illegal hunting and logging, the destruction of habitats and, consequently, forest degradation and impact fauna & flora in these areas (de Carvalho & al., 2018).

#### *High Conservation Value (HCV) areas in São Tomé*

In 2019, BirdLife International and the CE3C Research Centre of the University of Lisbon in 2019 conducted a preliminary assessment of High Conservation Value areas in São Tomé – a detailed description of which is provided in **Annex 2**. Based primarily on an assessment of biodiversity values outside the Protected Area network, 19 separate HCV areas were identified (Fig. 10), linked to species diversity (HCV1), to landscape-level ecosystems and mosaics (HCV2), to ecosystems and habitats (HCV3), to ecosystem services (HCV4), community needs (HCV5) and cultural value (HCV6). Most of these 19 HCV areas are in the PNOST buffer zone. However, six are outside the current interpretation of the buffer zone (which however is arbitrary and not legally decreed as explained above) – and their conservation can largely be attributed to the fact that other areas offered easier access and provided enough natural resources to meet demand. The lack of sustainable management of the buffer zones and the advanced stage of forest degradation or loss in some of the buffer zone areas, together with the existence of HCV forests outside of the buffer zone, asks for a slight redefinition and revision of the conservation areas on Sao Tomé – especially the boundaries of the buffer zone, if not also for limited amendments of the Park boundary. In addition, (some of) the areas could be designated Special Reserves under Article 21 of the Law on the Conservation of Fauna, Flora and Protected Areas (RDSTP 1999), that provides for the “*existence of restricted areas in size in which conservation and management are necessary to ensure the existence or reproduction of certain resident or migratory species, communities of flora or fauna*”.



The background shows the 100 m altitudinal isolines (thin black lines), over-imposed on São Tomé's preliminary land-use (native forest – dark green; secondary forest – light green; agroforest – orange; non-forested – yellow). The Obô Natural Park is shown by the thick black line and the buffer zone by the intermediate black line (ECOFAC IV). In grey is a proposed alternative to the boundaries of the buffer zone.

Code	Name	Area (ha)
A1	Praia de Plancas	33.7
A2	Ribeira Funda	110.3
B1	Ponta Furada	254.9
B2	Claudina	143.0
B3	Morros de Bindá	2,165.6
C	Contador	100.4
D	Chamiço	1,498.8
E	Zampalma	846.4
F	Maria Fernandes	3,982.9
G	Vila António	152.9
H	Praia Grande	76.3
I1	Cão Pequeno	506.3
I2	Sarcinda	494.1
K1	Praias do Sul	60.2
K2	Jalé	45.5
K3	Cantagalo	97.8
K4	Xixi	62.3
K5	Mussacavú-Willy	245.9
L	Pico Macurú	35.5

Figure 10: HCV Areas of Sao Tomé

The preliminary HCV area boundaries were drawn also to be easily identified on the ground and to avoid overlap with agricultural plots and concessions. More recent work on the flora and fauna of Príncipe Island indicates that a similar approach to the designation and management of the buffer zone that integrates HCV areas and criteria would be appropriate to ensure better protection of biodiversity (GTC, 2018).

**Authorities responsible for the protected areas system.** The current, exclusively terrestrial, protected areas system is presently overseen and managed through the PNOT Department in the Directorate for Forests and Biodiversity (DFB) under the Ministry of Agriculture, Fisheries and Rural Development; and through the PNP Section, PNP & Biosphere Reserve Department in the Environment and Nature Conservation Regional Directorate under the Príncipe Regional Secretariat for Environment and Sustainable Development. However, the General Directorate for Environment (DGA) also has a Department for Nature Conservation and Biodiversity Management and there are structural overlaps. It is unclear who will become responsible once a set of marine PA eventually becomes legally gazetted, noting that neither DFB, nor DGA, nor the Directorate for Fisheries would have the appropriate mandate and capacity.

## Environmental mainstreaming and land use planning

### *Integrated land-use planning and management*

A Law on Land-Use Planning was adopted in 1991 (Law 3/1991) yet it has not been applied except on limited urban planning aspects and no agency has a mandate on integrated land-use planning and management.

Since 2016, however, the Ministry of Public Work, Infrastructure, Natural Resources and Environment (MOPIRINA) is implementing a project funded by the African Development Bank (USD 2,435,840) tasked to prepare a National Land Use and Management Plan (PNOT – *Plano Nacional de Ordenamento do Território*) and related outputs. MOPIRINA as national partner responsible for project implementation created a temporary structure for this purpose that brought together a series of technicians from several relevant government departments. Draft products including a summary map are available, and the final products are expected in 2020. The project was divided into three subprojects to produce the following results:

- Legal: Law on Land-Use and Spatial Planning; Diplomas on territorial planning instruments and urban planning operations; Review/amendment of proposal for the general regulations on urbanism and urban construction.

- Cartography and Geographic Information Systems (GIS): Images resulting from the aerophotographic coverage; Digital Terrain Model; Ortofotomaps; Vector cartography at a scale of 1:10,00.
- Spatial Planning: Seven Master Plans for the Autonomous Region of Príncipe and Districts of Água Grande, Cantagalo, Caué, Lembá, Lobata, Mé-Zóchi.

The draft products indicate a compilation of existing plans and maps from various sectors, yet without guidance on trade-offs and integration, and with no indication that environmental sustainability and biodiversity have been considered (e.g. the summary map shows all the hydro dams planned across the PNOT).

Under the project high resolution aerial imagery was obtained and a LIDAR scan of the islands was conducted from which an expert should be able to extract significant information on forest quality and resources, however the data are not publicly available at this stage.

The project implementation consortium produced eight recommendations for the government (see key extracts in Table 5). Mainly based on the finding that many uncoordinated stakeholders intervene in spatial planning within the government, they propose the creation of a competent authority to structure implementation efforts, bringing together key authorities, particularly the Directorate of Geographic and Cadastral Services (MOPIRINA) and the Department of Land Affairs (MAPDR).

**Table 5: Extract from the 8 recommendations formulated by the PNOT Unit to the Government of STP in 2019**

#	Recommendations
<b>3</b>	<b>Land-Use and Spatial Planning Laws</b>
Observation	The revision of the Land-Use Law is currently underway (Law n.º.3/91 of July 31 <sup>st</sup> ). In the draft, there are obvious overlaps with the PNOT current work, namely, with regard to the classification of lands and the legal regime to which they are subject. The construction of wooden buildings in rural areas, which do not require licensing, generates high demand for timber, which has serious consequences for deforestation.
Recommendation	Articulate the Land-Use Law with the proposals for Spatial Planning and Urbanism Laws. Ensure that all constructions are progressively subject to licensing.
<b>4</b>	<b>Building Licensing and Control</b>
Observation	In the draft laws submitted under the PNOT, it is proposed to centralise the licensing and control of buildings in a single entity, regardless of their location in urban areas or on land with an agricultural purpose. According to information provided by FAO, a project aiming at restructuring of the Ministry of Agriculture is being prepared.
Recommendation	Articulate this proposal for the centralisation of competences with the restructuring of the current competences attributed to MOPIRINA and MAPDR. Define in which entity the competencies for licensing should be centralized.
<b>5</b>	<b>Property Registration</b>
Observation	There is no up-to-date property cadastre, supported by digital mapping, which impedes the effective management and control of property titles and transmissions, as well as the licensing of buildings.
Recommendation	Develop a national property cadastre, supported by the new cartography and orthophotomaps to be produced under the PNOT and managed through a GIS.
<b>7</b>	<b>Management of the PNOT after its Completion and Approval</b>
Observation	It is of the utmost relevance to advance, at the earliest convenience, with due training of the authorities that would be responsible for implementation (legal aspects, cartography, plans interpretation). More specifically, with regard to the new legislative framework under preparation, given the absence of any previous regulatory framework relating to the instruments of spatial planning, specific training should be given to jurists, judges and technicians who will have to work in the future with the new legislative framework that will be approved.
Recommendation	Create an institutional structure, duly equipped with human and material resources and, if necessary, supported by consultants with international experience, to manage the implementation of the PNOT and ensure the training of local staff.

## Forest management and environmental law policing and enforcement

The management of STP's forests is led by the Forest & Biodiversity Directorate (DFB, under the Ministry of Agriculture, Fisheries and Rural Development). In accordance with Law no. 5/2001 – Forestry Law in force, the DFB is responsible for the establishment of the directives for the conservation and sustainable use of forest, including timber and non-timber resources i.e. the elaboration and implementation of forestry sector policies in the country.

The legal basis includes (but is not limited to):

- Law n°5/2001 – Forestry Law: Establishes the general framework of forest conservation and exploitation in the country, creates the Directorate of Forests, details its attributions and competences;
- Decree-Law 19/2009 – Control of the import, acquisition and circulation of chainsaws in the country: Establishes the rules for the acquisition of chainsaws, equipment and accessories for forest exploitation and criteria for their circulation in the country;
- Decree-Law 20/2009 – Regulation for Timber Import Licensing.

To date, environmental law enforcement in STP in the terrestrial domain have been limited primarily to the actions of technicians and forest guards of the DFB and the Regional Secretariat for the Environment and Sustainable Development (RSESD) on Sao Tomé and Príncipe, respectively.

The DFB's Department for Monitoring, Enforcement and Control and the RSESD's Department for Forests and Biodiversity issue the licenses requested for the exploitation of natural resources, especially timber, charcoal, NTFP and wildlife hunting (in practice, no licensing is given for hunting). Some monitoring of timber and charcoal logging licenses issued takes place – very limited in Sao Tomé and occasional on Príncipe. In addition, it is clear that at least on Sao Tomé there is significant unlicensed illegal exploitation. As the Natural Park Department is under DFB, there is no separate effort for the enforcement of the PNOST.

The DFB through its Department for Silviculture oversees nurseries, distributes seedlings to farmers, and conducts planting. Most of the species grown in nurseries and distributed and planted are common exotic species sought by farmers to enrich their plantations.

There is no complete mapping of the forestry-related economic infrastructure. A survey led by the DFB in 2011 identified the existence of 60 timber posts of sale in various parts of the country, most of them illegal – in 2018, there were two 'official' sawmills in operation in Sao Tomé: IEM (Victor Futuros, in Fruta-fruta) and Gravana (Vigilinho, in Almeirim). However, it is widely known that the hotspot of timber logging and sawmilling and charcoal-making on Sao Tomé are in Neves in north-western São Tomé. On Príncipe, there is only one wood processing centre in the city of Santo António.

As for the nurseries, on the island of São Tomé there is the Central Nursery (Campo de Milho) and the Pinheira Nursery and on the island of Príncipe, the Nursery of the Regional Forestry Service Department (Sto. António) (PNOT, 2019).

With regards to commercial timber, the species most commonly sold are: African teak (*Milicia excelsa*), Spanish cedar (*Cedrela odorata*), Moluccan albizia (*Paraserianthes falcataria*), Pau-mole (*Tetrorchidium didymostemon*), Jackfruit (*Artocarpus heterophyllus*), Marapião (*Zanthoxylum* sp.), Carapa or 'gôgo' (*Carapa procera*). However, in recent years, there has been an increase in demand for lower quality wood such as Coral tree (*Erythrina* sp.), Breadfruit tree (*Artocarpus altilis*) and Sandpaper tree (*Ficus exasperata*) (do Espirito & al., 2015).

Under the UNDP-led GEF5-funded project "Promotion of Environmentally Sustainable and Climate-Resilient Grid/Isolated Grid-Based Hydroelectric Electricity through an Integrated Approach in São Tomé and Príncipe", forest engineer technicians of the DFB prepared a National Forest Development Plan for 2018-2030 (PNDF). The PNDP aims to formalise the sector and boost the forest economy and timber industry and has set ambitious targets, namely to increase the contribution of the forest sector to GDP by at least 25% by 2030 mainly through management measures to increase timber productivity; and to ensure that by 2030 at least 65% of timber used in STP is produced in sawmills. This appears a very production-oriented vision of the national forest resources that may need to be balanced with sustainable management measures especially in the Protected Areas buffer zones and HCV areas. Table 6 provides extracts from the PNDP with strategic and operational objectives that are more balanced.

Table 6: National Forest Development Plan 2018-2030 strategic & operational objectives (from de Carvalho & al. 2018)

Strategic objectives	Operational objective
<b>1 - Coherence and Coordination in the Implementation of the National Forestry Policy</b>	
SO 1.1. Adopt a policy for the forest sector in São Tomé and Príncipe	OO 1.1.1 Adopt and apply the national guidelines of the Santomean forestry sector policy
	OO 1.1.2 Update and harmonize the legal and institutional framework of the forest sector and biodiversity
	OO 1.1.3 Strengthen the implementation of international and sub-regional conventions and agreements signed and/or ratified in the field of forestry and biodiversity
<b>2 - Development of Sustainable Management of Forest and Agroforestry Resources</b>	
SO 2.1 Foster Sustainable Management of Secondary Forests	OO 2.1.1. Secondary forest land use planning
	OO 2.1.2. Ensure sustainable management of secondary forests with productive potential
	OO 2.1.3. Develop community management of secondary forest areas
SO 2.2 SO 2.2 Promote the sustainable management of shade forests in an agroforestry system perspective	OO 2.2.1 Create conditions that ensure the management of shade forests as agroforestry systems
	OO 2.2.2 Restore the shading in shade forests (cocoa and coffee plantations)
SO 2.3 Develop conservation and sustainable management of Savannas, Dry and Open Tropical Forests, and Mangroves	OO 2.3.1 Ensure conservation and sustainable management of the mangroves of STP
	OO 2.3.2 Sustainably manage the savannahs and dry and open tropical forests of the North-Northeast of STP
SO 2.4 Strengthen the participation of all stakeholders, especially vulnerable population groups, in forest management	OO 2.4.1 Strengthen the organizational and technical capacities of civil society organizations (CSOs), as well as the active participation of vulnerable populations, in forest resource management
<b>3 - Forest monitoring and combating illegal logging</b>	
SO 3.1 Develop the Permanent Services for National Forest Inventory and Forest Monitoring	OO 3.1.1 Create and/or install a National Forest Monitoring System
	OO 3.1.2 Carry out the 3 <sup>rd</sup> National Forest Inventory
	OO 3.1.3 Develop and implement a national REDD+ strategy
SO 3.2. Reduce the occurrence of illegal logging and the incidence of chainsaw use in forest timber processing	OO 3.2.1 Design and implement an Integrated Action Plan to Combat Illegal Logging
	OO 3.2.2 Improve the effectiveness of forest control and enforcement activities
<b>4 - Fostering the forest economy and the timber industry</b>	
SO 4.1. Improve the contribution of the forest sector to economic development and the well-being of the population	OO 4.1.1 Increase the contribution of the forestry sector to the economy of the State of Santomean
	OO 4.1.2 Promote the creation of alternative activities that generate employment and income in rural areas
SO 4.2. To promote the wood sawmilling industry	OO 4.2.1 Install new sawmills and intelligent wood processing workshops

The situation on Príncipe regarding forest management is more favourable, due to the much smaller population of only c. 10,000 people and greater political support and public awareness, but there is still a need to strengthen capacity and resources. A Regional Presidential Decree (2010) prevents all harvesting of timber during four months per year (March, June, September, & November). In terms of reforestation, about 30 ha of degraded areas have so far been replanted through partnerships between the Regional Forest Department and private landowners, where the Regional Forest Department provides seedlings of commercially valuable species.

#### Environmental financing

STP is a country with limited financial resources, and with 95% of the public sector budget stemming from Official Development Assistance (ODA) there are limited domestic sustainable revenue generating options. For instance, recent public budgets for the two Natural Parks together have been around USD 17,000 per year.

In consequence, financing for the environment and most notably for biodiversity and protected areas in STP comes almost exclusively from international grants – from ODA to Governments and NGOs, and from NGOs, foundations and philanthropists to NGOs. Both government agencies and NGOs focus their fundraising efforts on international grant fundraising.

One recent and relevant donor for conservation in STP was the Critical Ecosystem Partnership Fund (CEPF), providing grants to civil society in the Guinean Forests of West Africa Hotspot. This is also implemented through a Birdlife led Regional Team and closely aligns with the EU-funded project since its inception.

There have been no impactful recent interventions on mobilising sustainable financing. BirdLife-led EC-funded ECOFAC6 project aims at developing a Biodiversity & Protected Area Sustainable Finance Plan and mobilise more



resources from tourists by improving the Protected Areas entrance fee collection system. The FFI-led Blue Action Fund project plans to assess opportunities for mobilising financing for Marine Protected Areas.

#### *National Funds for Forestry, Biodiversity/PAs and Environment.*

The relevant environmental legislation created 3+ relevant funds: Fund for Forest Promotion, (two) Special Natural Park Funds (one per Natural Parks) and Environment Fund:

**Fund for Forest Promotion** (*Fundo de Fomento Florestal, created under Law 05/2001<sup>2</sup>*). A regulatory decree was prepared that stipulates that revenue shall come from: logging fees; fines and fees for logging permits; government funds from core budget of the state; state forest domain exploration; sales of seeds, seedlings, Non Timber Forest Products, among others; loans and grants from countries and international cooperation bodies, granted to the State and allocated to the Forest Promotion Fund; donations from any source; sales by public auction of seized forest products; renting of forest land or land for forestry purposes; revenues from the management of permanent preservation areas.

The decree has not yet been approved by the Government. Yet the Fund operates nevertheless through a bank account operational through the signature of the “Director of Forests” and the “Head of the Monitoring and Evaluation Department” (according to the Regulations). Revenue has been used for the repair and maintenance of nurseries; subsidies for the production and distribution of seedlings; seed production; forest restoration & maintenance interventions; research & development (soil protection, irrigation, trees adaptation); development of community forest programs; loan payment & compliance with arrangements; Forestry Week activities; payment of subsidies to technicians. There are no financial reports.

**Special Park Fund** (*Fundo Especial do Parque, one for each of the two Natural Park*). The Special Park Funds are proposed in the Conservation of Fauna, Flora & Protected Area Act (Law 11/1999<sup>3</sup>), for any protected area, and then created in the Laws 6/2006 and 7/2006<sup>4</sup> that established the São Tomé Obô Natural Park of and Príncipe Natural Park, respectively. The revenue shall come from fees and fines, resources from other activities developed in and around the Parks (e.g. permits & licensing), and donations from potential sponsors.

In Sao Tomé, initially under a past EU-funded ECOFAC project cycle and then reviewed under the IFAD-led GEF5-funded PAPAFA project, a regulation was proposed, but so far, the Funds have not been legally established. There are two bank accounts handled by the (ex) Park Directorate (now part of the Department of Forest & Biodiversity Directorate), but lack appropriate management.

In Príncipe, for the Príncipe Natural Park, the regional government in 2018 created an additional separate fund. A regulation was approved regionally that allows the PNP to manage funds collected, mainly from fees from foreigners visiting the Natural Park (5€ per person).

**Environment Fund** (*Fundo para o Ambiente, Law 10/1999<sup>5</sup>*). This fund proposed by the Environment Law in its article no. 53 was created implicitly with the adoption of the Environmental Law, but should be regulated by a specific text, which was never proposed. The revenue shall come from the general budget of the state, from fees collected for the use of natural resources, compensation, and indemnities (e.g. the *Taxa de Impacto Ambiental* (Decree-Law 47/2013<sup>6</sup>) – fee to offset the environmental impact – is supposedly contributing to the fund.

For further details on past and ongoing interventions, description of recent and on-going donor-funded project is provided in **Annex 3**.

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<sup>2</sup> República Democrática de S. Tomé e Príncipe. Lei de Florestas, Lei n.º 05/2001, Direção Geral do Ambiente / Direção das Florestas.

<sup>3</sup> República Democrática de S. Tomé e Príncipe. Lei de Conservação da Fauna, Flora e das Áreas Protegidas, Lei n.º 11/99, de 31 de dezembro.

<sup>4</sup> República Democrática de S. Tomé e Príncipe. Lei n.º 6/2006, Lei do Parque Natural Obô de Sao Tomé & República Democrática de S. Tomé e Príncipe. Lei n.º 7/2006, Lei do Parque Natural Obô do Príncipe

<sup>5</sup> República Democrática de S. Tomé e Príncipe. Lei Base do Ambiente, Lei n.º 10/99, de 31 de dezembro.

<sup>6</sup> República Democrática de S. Tomé e Príncipe. DECRETO- LEI Nº 047/2013 Que Revoga o Decreto – Lei nº14/2003, de 31 de dezembro, 5º Suplemento, QUE INSTITUI A TAXA DE IMPACTO AMBIENTAL (TIA)

## II. BIRDLIFE INTERNATIONAL ORGANIZATIONAL CONTEXT

### BirdLife International

BirdLife International is the largest global partnership of conservation organisations (NGOs), striving to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. Together there are 115 BirdLife Partners worldwide and growing.

BirdLife is driven by the belief that local people, working for nature in their own places but connected nationally and internationally through our global Partnership, are the key to sustaining all life on this planet. This unique local-to-global approach delivers high impact and long-term conservation for the benefit of nature and people.

BirdLife is widely recognised as the world leader in bird conservation and is the official IUCN Red List authority on birds. It provides data on population estimates, trends and conservation status of all (c. 11,000) bird species in the world. BirdLife's Important Bird and Biodiversity Area (IBA)<sup>7</sup> Programme has identified around 13,000 global and regional sites in terrestrial, freshwater and marine ecosystems all over the world, making this the largest global network of sites of significance for biodiversity. Rigorous science informed by practical feedback from projects on the ground in important sites and habitats enables BirdLife to implement successful conservation programmes for birds and all nature. BirdLife's actions are providing both practical and sustainable solutions significantly benefiting nature and people.

Each BirdLife Partner is an independent conservation not-for-profit, non-governmental organisation (NGO). Most Partners are best known outside of the Partnership by their organisation's name. This allows each Partner to maintain its individual national identity within the global Partnership. BirdLife Partners work together in a collaborative, coordinated fashion across national boundaries to build a global Partnership of national conservation organizations. The Global Partnership is guided a biodiversity strategy that is developed through a bottom-up process.

The BirdLife Secretariat has 6 Regional BirdLife Offices throughout the world (Quito for the Americas; Brussels for Europe and Central Asia; Amman for the Middle East; Accra, Dakar and Nairobi for Africa; Singapore and Tokyo for Asia; and Suva for the Pacific) and a Global Office in Cambridge, UK – together known as “The BirdLife International Secretariat”. The Secretariat across the world co-ordinate and facilitate the BirdLife International strategies, programmes and policies.

### BirdLife International in São Tomé & Príncipe

BirdLife has been active in São Tomé & Príncipe for over 10 years, working with Park management authorities, government ministries and local communities on research, conservation of threatened birds and local empowerment. BirdLife International and its partners, SPEA (BirdLife in Portugal) and the RSPB (BirdLife in the UK) have been working at a relatively small-scale in São Tomé & Príncipe for over a decade; carrying out research to expand understanding of São Tomé & Príncipe's critically-endangered species to inform conservation plans, building strong working relationships with key government and private sector stakeholders, and engaging with local communities to understand their needs and raise awareness of São Tomé & Príncipe's unique flora and fauna.

In 2017 BirdLife International, through the EU-funded ECOFAC6 Regional Programme, obtained a 4.3-year grant for the protection of the Natural Parks in São Tomé and Príncipe islands. The project addresses the structural challenges to sustainable conservation of São Tomé & Príncipe's unique forests and creates the frameworks for the effective management of the Natural Parks and surrounding landscapes. Importantly, the programme shall empower communities and other relevant stakeholders to sustainably manage and protect the vulnerable buffer zone through a participatory endorsement of High Conservation Value areas. BirdLife also currently manages CEPF actions in the Guinean Forest of West Africa Hotspot via a Regional Implementation Team, enabling synergies to be capitalised upon and the potential for future donor support to be leveraged. All CEPF funded projects are contributing towards the current and upcoming implementation of the Sao Tomé and Principe component of the ECOFAC regional Programme, in particular for underfunded priorities like the revision of mangrove management plans, the increase knowledge,

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<sup>7</sup> designation in transition to Key Biodiversity [and Birds] Areas (KBA) global recognition

protection and education on threatened and endemic species, the investigation of potential sustainable financing mechanisms from forest resources, and the reinforcement of capacities of civil society organizations.

BirdLife hasn't yet identified a formal partner in Sao Tomé and Príncipe.

### III. CONSERVATION STRATEGY

#### A. Environmental Assessment

##### Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

An analysis of the internal strengths and weaknesses, and external opportunities and threats facing BirdLife vis-à-vis their goal to establish a country strategy and programme in São Tomé and Príncipe was undertaken to help inform the planning process (Tab. 7). As the only international conservation organization directly working on biodiversity conservation in São Tomé and Príncipe and with funding secured until 2022 (and further projects currently under development or approval), BirdLife is in a strong position to capitalise on significant opportunities for partnering, for securing funding, and for delivering biodiversity and social outcomes. To be able to fully capitalise on these opportunities, BirdLife International will move from a project-based approach to a programmatic approach with a long-term vision and strategy for São Tomé and Príncipe. At the same BirdLife will establish the minimum requirements for personnel, capacity and resources to effectively function as a programme with the ability to weather fluctuations in funding and staff turn-over.

The principal threat to achieving long-term success is the low capacity and awareness of government, Civil Society Organisations (CSOs) and local community. Therefore, any strategy needs to focus on building the individual and institutional capacity and awareness on biodiversity of these key stakeholders. In addition, while there is a large number of registered CSOs in São Tomé and Príncipe, a few of which focus on biodiversity conservation, not many have the capacity to engage in project and programme implementation. Even fewer are engaged at all let alone collectively in advocacy and coordination at the national level. For BirdLife to realise its long-term vision for São Tomé and Príncipe it will need to take a leadership role at the national level among CSOs, and for it to realise its ultimate objective to operate through a strong local partner, it will need to build capacity of national CSOs from which a strong local partner will be chosen as the principal strategic partner in-country, fundamental to achieve its ultimate objective.

Table 7: SWOT Analysis

STRENGTHS		WEAKNESSES	
<b>Institutional Capacity &amp; Partnerships</b>			
1. BirdLife is the only international conservation NGO with a physical presence in São Tomé and Príncipe	2. BirdLife has extensive experience in supporting the growth of national organisations	3. BirdLife has enormous capacity to draw on from regional and international programmes; and BirdLife has access to significant expertise and support through its global partnership	4. BirdLife is accepted as a trusted partner by the Government of São Tomé and Príncipe
5. BirdLife has a substantial scientific knowledge of the biodiversity of STP and in particular birds			
<b>Strategy</b>			
6. BirdLife can draw on regional and international strategies and institutional memory	7. BirdLife have over 10 years' experience in São Tomé and Príncipe, the last (almost) 2 of which have been with a permanent presence in-country, and this means extensive knowledge of the country, issues pertaining to biodiversity conservation, stakeholders and more	4. The current approach for São Tomé and Príncipe is project based, with no clear long-term strategy yet articulated	5. The current project design is adapted from a generic regional design and not specifically tailored to São Tomé and Príncipe
<b>Financial</b>			
8. BirdLife has multi-donor funding secured until the end of 2025 with a healthy project funding pipeline		6. Current funding stream is mostly highly or moderately restricted	
OPPORTUNITIES		THREATS	
<b>Institutional Capacity &amp; Partnerships</b>			
1. There are a significant number of national and international Civil Society Organisations (CSO) to partner with	2. There is a willingness from the private sector to collaborate with BirdLife and its partners and to engage in biodiversity conservation irrespective of the limited regulatory compliance mechanisms in place	3. BirdLife in São Tomé and Príncipe can function as the institutional centre of Lusophone Africa, providing technical support to other Lusophone countries	4. The BirdLife Partnership model offers the opportunity for increasing autonomy for a developing national conservation CSO
		1. The capacity of government, national CSOs and local community is on the whole extremely low	2. There is weak implementation and enforcement by Government
		3. Support from government is inconsistent and is often based more at the individual level than institutional level, which with frequent staff turn-over means a fragile relationship	4. Biodiversity is not mainstreamed into national policy, planning and legal frameworks
		5. Politically motivated negative perceptions of international NGOs with the view that that they are taking foreign aid that should be going to government	
<b>Strategy</b>			
5. The natural capital of the archipelago is very rich and undervalued	6. The potential for tourism and associated revenue is high in São Tomé and Príncipe	7. There is limited competition from other CSOs in São Tomé and Príncipe with a clear separation of roles between those involved in biodiversity conservation	8. There is a gap at the national level in conservation leadership among CSOs
		6. There is limited potential for collective strength in biodiversity advocacy among CSOs in São Tomé and Príncipe	7. Population growth is high combined with a high dependence on natural resources for food, fuel and construction
		8. Poverty and unemployment is high	
<b>Financial</b>			
9. As the only international conservation NGO registered and based in São Tomé and Príncipe, there are significant funding opportunities available		9. There is a high dependence on foreign aid in São Tomé and Príncipe	

## Threats-Opportunities / Weakness-Strengths (TOWS) Strategies

TOWS analysis uses the results from the SWOT analysis to develop a hierarchy of strategies, ranked from most effective to least effective (Table 8). The most effective strategies, Maxi-Maxi strategies, are strategies that use strengths to maximise opportunities, while the least effective are Mini-Mini strategies, which are those that minimise weaknesses to avoid threats. In addition, there are Maxi-Mini strategies, which are those that use strengths to minimise threats, and Mini-Maxi strategies, which are those that minimise weaknesses by taking advantages of opportunities.

The analysis below shows that BirdLife's unique position as the main international conservation organisation in São Tomé and Príncipe, together with its globally recognised conservation approach including innovative partnerships with the private sector and ecosystem service initiatives (e.g. IBAT alliance, natural capital coalition membership, TESSA toolkits), gives BirdLife an important advantage. BirdLife's unique approach of working principally through national conservation partners also means that they are well placed to help establish a nationally led conservation partnership for long-term sustainability and local ownership. Using its extensive experience, institutional knowledge and professional networks, BirdLife can partner with government, civil society and the private sector to leverage biodiversity and social outcomes. Timing is also important, and with São Tomé and Príncipe highly dependent on foreign aid (c. 95%), and with plans to develop oil and gas, commercial fisheries, plantations and tourism, there is an opportunity for BirdLife to influence how the government of São Tomé and Príncipe manages reconciliation of the different streams of development objectives and investments, most of which depend on natural resources and ecosystem services and pose a potential negative impact on these. Finally, BirdLife will make significant investments in biodiversity education and awareness, with the acknowledgment that long-term sustained solutions rest with a more aware and engaged civil society that holds their government accountable.

Table 8: TOWS Analysis

	Opportunities (1-6)	Threats (1-8)
<b>Strengths (1-6)</b>	<p style="text-align: center;"><b>Maxi-Maxi Strategies (SO)</b></p> <p><u>Strengths [1-8]/Opportunities [1,2,6,7,8]:</u></p> <ul style="list-style-type: none"> <li>• Develop country strategy to build partnerships and secure long-term funding</li> </ul> <p><u>Strengths [1-8]/Opportunities [1,2,4,5,6,7,8]:</u></p> <ul style="list-style-type: none"> <li>• Engage private sector in innovative ways of incorporating biodiversity into business models</li> <li>• Promote Natural Capital valuation through finance &amp; services</li> <li>• Lead process to realise potential of nature based &amp; socially responsible tourism in São Tomé and Príncipe</li> <li>• Use position as only international conservation NGO based in São Tomé and Príncipe to establish BirdLife as the conservation leader among CSOs</li> <li>• Use strengths to help raise the bar among CSOs and create potential for a strong local partner to inherit leadership in the long-term</li> <li>•</li> </ul>	<p style="text-align: center;"><b>Maxi-Mini Strategies (ST)</b></p> <p><u>Strengths [1-8]/Threats [1-6]:</u></p> <ul style="list-style-type: none"> <li>• Draw on BirdLife’s significant international capacity to design programmes to raise capacity of government, CSOs and local community</li> </ul> <p><u>Strengths [1-8 – esp.3]/Threats [1-6]:</u></p> <ul style="list-style-type: none"> <li>• Use BirdLife’s comparative advantage in São Tomé and Príncipe and global institutional capacity to strategically work with government to improve biodiversity mainstreaming, implementation and enforcement</li> </ul> <p><u>Strengths [1-8]/Threats [5]:</u></p> <ul style="list-style-type: none"> <li>• Capitalise on BirdLife’s strengths, and provide leadership among CSOs for advocacy and coordination at the national level</li> </ul>
<b>Weaknesses (1-6)</b>	<p style="text-align: center;"><b>Mini-Maxi Strategies (WO)</b></p> <p><u>Weaknesses [6]/Opportunities [8]:</u></p> <ul style="list-style-type: none"> <li>• Capitalise on BirdLife’s innovation capacities and the funding opportunities that come with it, and move away from being project based</li> </ul> <p><u>Weaknesses [1-3]/Opportunities [1-8]:</u></p> <ul style="list-style-type: none"> <li>• Use opportunities for funding, partnerships and leadership to build a strategic programme and build capacity</li> </ul>	<p style="text-align: center;"><b>Mini-Mini Strategies (WT)</b></p> <p><u>Weaknesses [1-3]/Threats [1-6]:</u></p> <ul style="list-style-type: none"> <li>• Build BirdLife and wider CSO and government capacity in-country in order to meet the threat of low capacity partners i.e. government, CSOs and local community</li> </ul> <p><u>Weaknesses [4,5]/Threats [6]:</u></p> <ul style="list-style-type: none"> <li>• Develop a clear long-term strategy and programmatic approach in order to minimise the threat of a failure in national leadership among CSOs</li> </ul>

## B. Global Vision, Mission, Values and Strategy

BirdLife's global strategy (Tab. 9) is currently under revision and will be updated in this document once completed. Until then the current global strategy is as described below:

BirdLife's strategy, developed bottom up by the BirdLife Partnership, directly supports the commitment of the world's governments to take urgent and effective action to halt the loss of biodiversity.

BirdLife's **Vision** is of a world rich in biodiversity with people and nature living in harmony, equitably and sustainably.

BirdLife's **Mission** is to conserve birds, their habitats and global biodiversity, working with people toward sustainability in the use of natural resources.

BirdLife's **Global Strategy** has four **pillars** (1) Save Species; (2) Conserve Sites and Habitats; (3) Encourage Ecological Sustainability, and (4) Empower People for Positive Change – which taken together constitute BirdLife's approach to conservation. Each strategic pillar comprises of two to three strategic objectives.

**Table 9: BirdLife International Global Strategy**

<b>Pillar 1</b>	<b>Pillar 2</b>	<b>Pillar 3</b>	<b>Pillar 4</b>
<i>Save Species</i>	<i>Conserve Sites and Habitats</i>	<i>Encourage Ecological Sustainability</i>	<i>Empower People for Positive Change</i>
<u>Objective 1:</u> Prevent extinctions	<u>Objective 1:</u> Identify, conserve, restore and monitor the sites and habitats important for birds and other biodiversity	<u>Objective 1:</u> Demonstrate and advocate nature's values	<u>Objective 1:</u> Catalyse support for nature
<u>Objective 2:</u> Keep common birds common	<u>Objective 2:</u> Promote resilient ecological networks	<u>Objective 2:</u> Promote policies that support sustainability	<u>Objective 2:</u> Promote local conservation action <u>Objective 3:</u> Strengthen the global BirdLife Partnership

The Strategy is implemented through a set of BirdLife Global and Regional Programmes. Nine Global Programmes were adopted at the 2013 Global Partnership Meeting and these and their expected results are presented below (Table 10).

**Table 10: BirdLife International Global Programmes**

<b>Global Programme</b>	<b>Expected Results (updated June 2014)</b>
<b>Preventing extinctions</b>	1a. Status of the world's most threatened bird species improved through the work of BirdLife Species Guardians and other effective action 1b. Overall extinction risk across all bird species reduced 1c. The BirdLife/IUCN Red List for birds regularly updated, improved and promoted with knowledge gaps filled through targeted research and monitoring 1d. Declines in common bird species prevented, halted or reversed.
<b>Important Bird and Biodiversity Areas</b>	2a. Highly threatened Important Bird and Biodiversity Areas (IBAs) saved from damaging development, through coordinated advocacy and interventions 2b. The long-term integrity of IBAs ensured via appropriate protection and management, or other effective means 2c. Connectivity needs of IBAs assessed and prioritised, and landscape-level work under development to ensure appropriate linkages 2d. Effective safeguard measures applied at IBAs by Governments, investors and corporates 2e. IBA documentation regularly updated, including through IBA monitoring, with results compiled in the World Bird and Biodiversity Database; and disseminated widely for action 2f. Assessment of the ecosystem services and livelihood benefits provided by IBAs underway and enhancing conservation action.



Global Programme	Expected Results (updated June 2014)
<b>Migratory Birds and Flyways</b>	<p>3a. Status of threatened or declining migratory bird species improved through effective implementation of action plans at appropriate scales</p> <p>3b. Networks of critical sites identified, documented, protected, managed and monitored for each major migratory flyway</p> <p>3c. International mechanisms for flyway-scale collaboration strengthened and better implemented</p> <p>3d. National and regional legislative, enforcement and practical implementation measures in place and effectively addressing key threats to migratory birds</p> <p>3e. Policy measures in place to maintain or improve the quality of key habitats for migratory birds at the landscape scale.</p> <p>4a. Coastal and offshore Important Bird and Biodiversity Areas (IBAs) within national jurisdiction identified, and delineated</p>
<b>Marine</b>	<p>4b Coastal and offshore Important Bird and Biodiversity Areas (IBAs) within national jurisdiction effectively managed, monitored and protected, including through recognition in regional conservation agreements and plans</p> <p>4c. Marine IBAs on the high seas identified and delineated, and included within national and international networks and/or plans for protected or environmentally sensitive areas</p> <p>4d. Effective mitigation measures adopted and significantly reducing seabird bycatch for long-line and trawl fisheries, and identified and proven for gillnet fisheries.</p>
<b>Forests</b>	<p>5a. Priority forests conserved through innovative approaches that maintain or restore biodiversity and ecosystem services</p> <p>5b: Effective approaches and tools for large-scale, long-term management, governance and financing of forest conservation and restoration developed and successfully advocated</p> <p>5c: Effective policy approaches developed and advocated to address the drivers of deforestation and forest degradation.</p>
<b>Climate Change</b>	<p>6a. Impacts of climate change on biodiversity assessed, using birds as indicators, and used to inform adaptive management at IBAs.</p> <p>6b. Climate-change adaptation approaches for people recognise the role of IBAs and ecosystems (habitats) and are implemented nationally and internationally</p> <p>6c. Impacts of energy developments, including renewables, on birds and biodiversity are recognised, assessed and when negative effectively avoided, mitigated and/or compensated.</p> <p>6d. International climate-change agreements influenced to strengthen mitigation measures and incorporate ecosystem-based approaches to adaptation</p>
<b>Invasive Alien Species</b>	<p>7a. Priorities identified and promoted for eradicating or controlling Invasive Alien Species (IAS) and preventing their spread</p> <p>7b. Effective global, regional and national policy frameworks addressing IAS developed and advocated</p> <p>7c. Capacity developed and strengthened to design, implement and share techniques for IAS eradication or control, and biosecurity</p> <p>7d. IAS eradicated or controlled, and/or biosecurity established, at the Important Bird and Biodiversity Areas (IBAs) and priority restoration sites where they constitute a major current or potential conservation problem.</p>
<b>Local Engagement and Empowerment</b>	<p>8a. Interest, concern and commitment to positive action for nature increased worldwide through communication, education and public awareness, including promotion of citizen science and engagement with young people, urban populations, and a diversity of new audiences</p> <p>8b. BirdLife Partners effectively link nature conservation to improvements in people's wellbeing and quality of life; and, where appropriate, promote development of nature-based, sustainable local livelihoods</p>
<b>Capacity Development</b>	<p>8c. Local Conservation Groups established and active at appropriate IBAs, with capacity to support, influence and monitor the management of natural resources, and networked for effective sharing of knowledge and resources and greater impact on decision-makers.</p> <p>9a. BirdLife Partnership expanded to cover priority gaps and Partners established as leading membership-based nature conservation organisations in their countries/territories</p>

Global Programme	Expected Results (updated June 2014)
	<p>9b. Systemic, institutional and individual capacity developed and strengthened across the Partnership in crucial areas, and the next generation of conservation leaders identified and nurtured, including through Partner-to-Partner knowledge sharing, co-operation and support</p> <p>9c. All BirdLife Partners are actively engaging with governments, and other stakeholders that impact the environment, to mainstream biodiversity into decision-making and ensure adequate resources are available for conservation</p>

C. Theory of Change

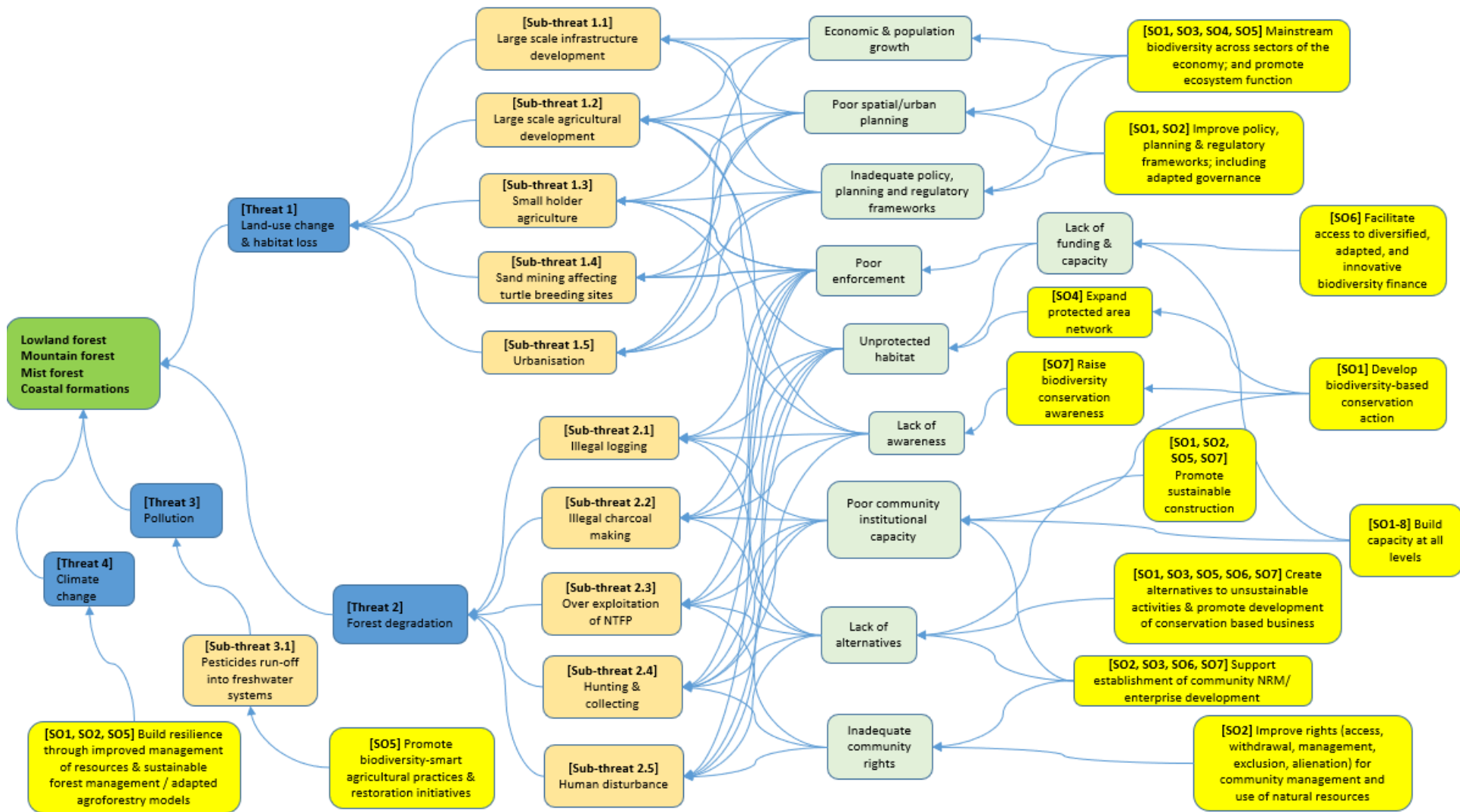


Figure 11: Theory of Change / Terrestrial Habitats

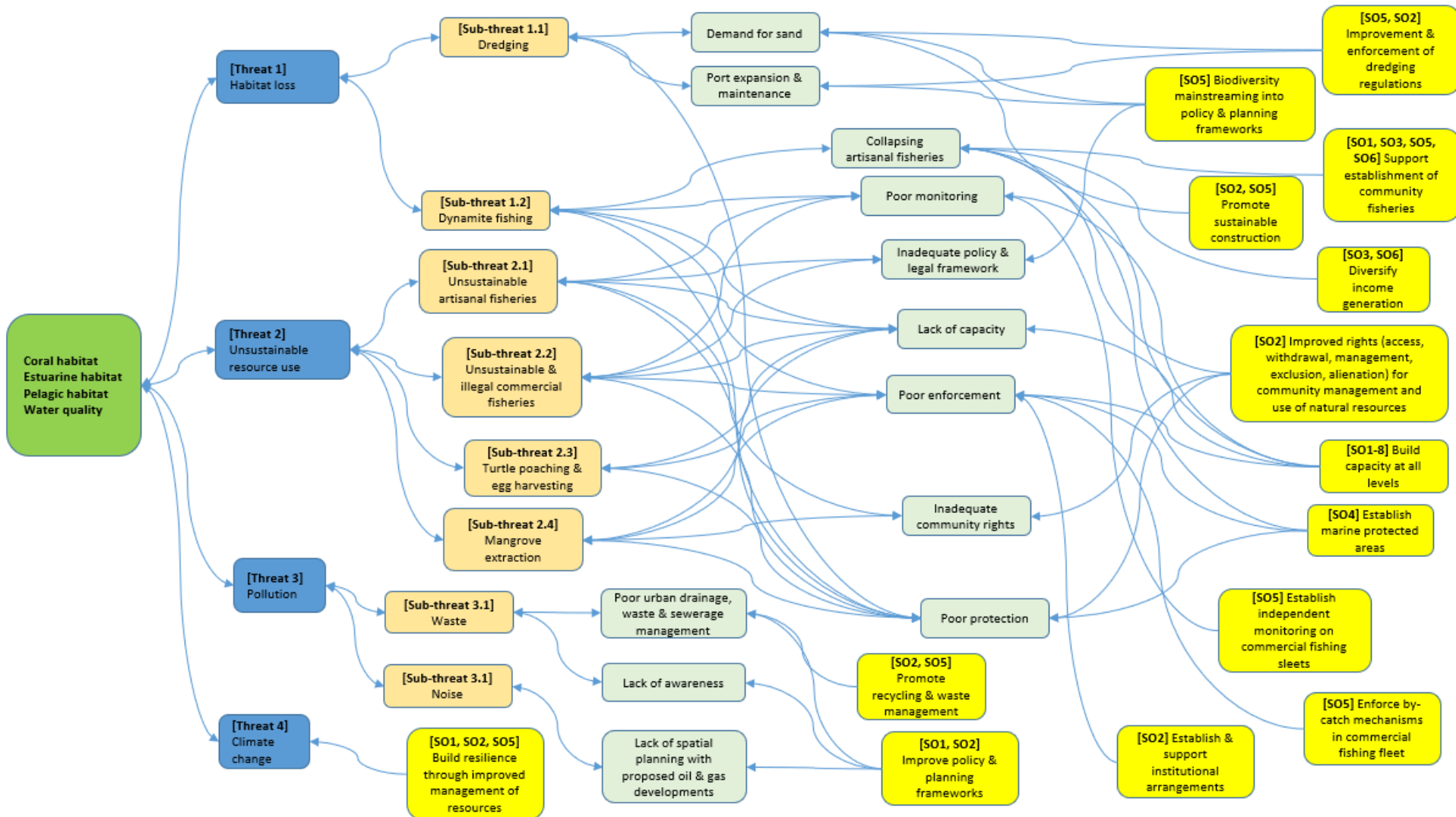


Figure 12: Theory of Change / Coastal & Marine Habitats

#### D. Vision, Goal, Specific Objectives & High-Level Activities

To address the above-mentioned challenges, root causes and barriers, BirdLife is envisioning that “the economy of São Tomé & Príncipe is underpinned by the effective conservation of biodiversity through nationally driven efforts that place local people and biodiversity central to the country’s economic model” with the goal to “sustainably improve biodiversity conservation in São Tomé & Príncipe.”

BirdLife has identified 8 Strategic Objectives (SO) to guide its intervention and align its global strategy to the specificity of São Tomé and Príncipe. Across the entire programme, BirdLife places gender mainstreaming centre to its design and approach, and knowledge management as core to its learning, adaptation and capacity building.

Over the next decade, by addressing the chronic gaps in knowledge on species, habitats and biological diversity of the archipelago, promoting management-oriented biodiversity monitoring through innovative and accessible tools and further translation of knowledge into realistically applicable guidance and practices, fostering collaborations and synergies with research institutes, organisations and universities, **BirdLife will drive the development of a sustained evidence based platform that informs biodiversity conservation action (SO1).**

By facilitating assessment and assessing gaps in institutional arrangements, and assessing gaps in biodiversity mainstreaming within policies and legal and regulatory frameworks, and by working in partnership with civil society and government, **BirdLife and its partners will drive the improvement of the institutional, policy, legal and regulatory frameworks for biodiversity conservation (SO2).**

The focus for further conservation action shall be biodiversity hotspots. By supporting a national review of KBAs and promoting innovative, simple, site-specific, effective management models, while promoting surveillance & monitoring and economic alternatives in place of unsustainable use of natural resources by local communities, **BirdLife will promote sustainable management of the Key Biodiversity Areas (SO3).**

By actively supporting effective management of existing protected areas and driving the identification, designation and development of new terrestrial and marine protected areas, **BirdLife will support effective management of a comprehensive protected areas network (SO4).**

As important as the existing and future expanded protected area network is/will be, BirdLife recognises the importance that the broader landscape plays in supporting biodiversity. By promoting and supporting effective and innovative solutions for the sustainable production and extraction of natural resources (including soils), by proposing alternatives toward an economic transition, by enhancing specific under-valued supply chain, from small holder farmers to agro-industry, by moving towards sustainable practices that place biodiversity central to the economic model, by improving integrated resources management, by strengthening resilience to climate change and supporting strategic decision-making to ensure species & sites conservation and restoration, **BirdLife will mainstream biodiversity conservation across sectors of the economy (SO5).**

This comes at a cost and finance is key to sustainability. By preparing and building on a comprehensive sustainable finance plan, **BirdLife will secure availability of sustainable financing for biodiversity conservation and protected areas management (SO6).**

Biodiversity conservation sustains life on the islands. Local populations benefit from biodiversity conservation, through provision of ecosystem services and well-being, for current and future generations. By effectively communicating, educating, building capacity and securing coordination mechanisms, **BirdLife will raise awareness of the value of biodiversity (SO7).**

This approach only makes sense if there is continuity in action, especially through civil society. By identifying and supporting conservation leaders, while empowering grassroots nature conservation organisations and facilitating access to conservation funding for local CSOs, **BirdLife aims at identifying and supporting one or more national NGOs or platform of Civil Society Stakeholders to assume incremental responsibility in leadership and implementation of the BirdLife strategy in STP towards long-term partnership involvement (SO8).**

<i>Vision</i>	The biodiversity values of Sao Tome and Principe are effectively conserved through a thriving economy that places local people and biodiversity central to its economic model.	<i>Programme indicators:</i> Number of direct & indirect programme beneficiaries disaggregated by gender Area of landscapes & seascapes under improved management leading to biodiversity outcomes Change in status of threatened bird species Number of green jobs created through Programme activities
<i>Goal</i>	<b>Sustainably improve biodiversity conservation in São Tomé and Príncipe.</b>	

**Table 11: BirdLife International strategic plan for São Tomé & Príncipe 2021-2030**

<i>Category</i> <sup>8</sup>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i> <sup>9</sup>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
	<b>SO1</b>	<b>Evidence-based biodiversity conservation action informed</b>			
I, M	A11	Collaborate with international & national research and education institutions to build on existing knowledge through creating synergies for research and development for science-based solutions applied to conservation action	Make agreements with international & national research and education institutions Facilitate technical support / assistance, field logistics, development, co-development and review of scientific articles, books and theses	Academia, Government, NGOs	Number of agreements Number of scientific publications on STP mentioning BirdLife and/or partners
M	A12	Develop & implement a Research Action Plan with the support of international & national research and education institutions	Develop and implement a Research Action Plan to (i) Directly contribute & promote contribution to environmental knowledge (including on invasive alien species) through micro-grants & field support to universities, individuals, NGOs and government institutions and (ii) Measure actual and projected impact on natural capital and ecosystem services at specific sites, and in particular economic valuation of the ecosystem services provided by the PAs and forests (including KBAs); promoting use of participative tools i.e. Toolkit for Ecosystem Service Site-Based Assessment (TESSA) and further qualitative review(s) of Ecosystem Services		Development and update of Research Action Plan  Amount directly granted or facilitated for research Number of scientific publications on STP facilitated by BirdLife and/or partners

<sup>8</sup> I = institutional framework, L = legal/regulatory framework, M = effective management systems, P = people

<sup>9</sup> Each intervention shall consider the regional specificity, especially for the Autonomous Region of Príncipe.

Category <sup>8</sup>	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention <sup>9</sup>	Main Stakeholders	Examples of Indicators
	<b>SO1</b>	<b>Evidence-based biodiversity conservation action informed</b>			
M, P	A13	Develop systematic methods to promote biodiversity monitoring across PA, KBA & surrounding ecosystems, using quantitative approaches, mobile-based applications and on-line platforms	<p>Establish, lead and support transect-based surveys of biodiversity &amp; threats</p> <p>Support development of open-access, easy to use and broadly integrated Management Oriented Monitoring System (MOMS), especially through numeric tools (e.g. Spatial Monitoring and Reporting Tool <a href="https://smartconservationtools.org">https://smartconservationtools.org</a>)</p> <p>Development of open-access, easy to use and broadly integrated Alert System, especially through numeric tools</p> <p>Develop Community Based Natural Resource Management (CBNRM) through development of micro &amp; macro-zoning plans in targeted communities</p> <p>Participate in global monitoring efforts e.g. International Water bird Counting, Global Big Day</p> <p>Pursue efforts of monitoring and assessment of key species (mainly birds) distribution and abundance using innovative new technologies to guide protective zoning in key areas and analyse results for indicator species with research institutes</p>	Government, Parastatal institutions, Academia, NGOs, Communities & Users, Private Sector	<p>Implementation of transect-based survey of biodiversity &amp; threats annually</p> <p>Number of CBNRM plans developed</p> <p>Development of open access MOMS &amp; alert systems (online platform &amp; mobile app)</p>
I, M	A14	Support development of a national database for biodiversity conservation	<p>Support development of a national database that gathers data from local studies and feeds into global databases to compile information on biodiversity, KBAs and PAs</p> <p>Develop high level indicators or evaluation criteria based on operational and/or scientific data to measure the progress of the integration of biodiversity at the national and subnational levels in the agricultural, forestry, fisheries and aquaculture sectors</p>	Government, Parastatal institutions, Academia, NGOs	<p>Availability of comprehensive database online</p> <p>Online database up to date (WBDB, KBA DB, Management Effectiveness tools such as METT)</p>
L, M, P	A15	Translate scientific knowledge into science-based guidance to support decision-making, management & dissemination to the general public	<p>Inform development and/or regular review, of Species Action Plans and site-based Management Plans</p> <p>Produce simple and accurate summaries of relevant studies to be translated in action</p> <p>Facilitate workshops &amp; trainings, community awareness activities and education</p> <p>Regularly develop status reports on biodiversity &amp; threats and associated didactic material</p>	Government, Parastatal institutions & committees, Academia, Agencies, NGOs, Communities & Users, Private Sector	<p>Development and update of Species Action Plans and site-based Management Plans</p> <p>Number of policy briefs developed</p> <p>Annual publication of biodiversity &amp; threats status report</p>
I	A16	Ensure representation of BirdLife and its partners at national, regional and international levels, bringing best practice learnt at these meetings to implementation in STP (and vice versa)	<p>Participate in national, regional and international meetings (e.g. CBD COP 15, BirdLife World Congress)</p> <p>Promote São Tomé and Príncipe participation in national, regional and international meetings</p>	Government, Academia, Agencies, NGOs	Presentations at national, regional and international meetings

Category	Code	Strategic Objectives & High Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO2</b>	<b>Institutional &amp; regulatory framework on biodiversity conservation improved</b>			
I	A21	Assess current institutional framework to develop two streamlined operational set-ups for biodiversity conservation & for environment-friendly land use planning	Promote improvement of the institutional framework on nature conservation, forests and protected areas, and on environment and land use planning and management Propose & support, through adapted action plans, creation of suitable autonomous agencies/institutes for (i) biodiversity conservation, and (ii) for environment-friendly land use planning	Government, Parastatal institutions & committees, Agencies	Establishment of new streamlined and effective institutes for (i) biodiversity conservation, and (ii) environment and integrated land use planning
M	A22	Support establishment & capacity development of operational set-ups for biodiversity conservation & for environment-friendly land use planning	Support institutional and individual staff capacity development through providing basic trainings and advanced/specialised trainings Facilitate continuous support through technical assistance Finance rehabilitation/construction of key infrastructures to host the emplaced institutes, & equipment	Government, Parastatal institutions & committees, Agencies	Scores obtained from the UNDP Capacity Developing Scorecard
L	A23	Support revision of the legal and regulatory framework for biodiversity conservation	Conduct a trans-sectoral review of biodiversity considerations, sustainable tourism, forest management, the environment & land use planning in national and sub-national policies and development plans Promote science-based policies & regulation review e.g. hunting law Organise capacity building activities for Government and regional entities to promote biodiversity safeguards in policies and development planning Develop guidance document for mainstreaming biodiversity into policies and development planning Conduct capacity building for Government staff to understand and develop an action plan for mainstreaming across various sectors Support relevant institutions in São Tomé and Príncipe to initiate policy review to integrate recommendations from the guidance document (including Environment Impact Assessment and Strategic Environmental Assessment)	Government, Parastatal institutions & committees	Number of guidance documents developed Number of laws & regulations reviewed according to biodiversity mainstreaming principles Number of government / politicians trained



Category	Code	Strategic Objectives & High Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO2</b>	<b>Institutional &amp; regulatory framework on biodiversity conservation improved</b>			
I, M, P	A24	Promote better planning to support both biodiversity conservation and ecosystem service delivery	<p>Capitalize on innovative methods for natural capital assessment (e.g. HCV/KBA criteria, TESSA, etc.) to measure &amp; value the losses and gains of different land uses</p> <p>Develop custom-built innovative approaches to fit the landscape consequences and opportunities emerging from the natural capital assessment (e.g. board game(s) design)</p> <p>Facilitate experiential learning process for stakeholders involved at different levels and scales and provide critical leadership on biodiversity in national policy dialogues to incorporate science based locally adapted biodiversity criteria and indicators e.g. into food systems</p> <p>Value the economic, social and cultural contribution of biodiversity and ecosystems in the sustainability, profitability and competitiveness of the different sectors, considering the participation of the different stakeholders and its contribution to livelihoods</p> <p>Promote São Tomé (and Príncipe) as a model and develop the country roll out potential</p> <p>Monitor sector compliance to prevent large-scale developments and investments (in agriculture, tourism, infrastructure, energy, etc.) that could harm natural and productive ecosystems in an undue manner</p>	Government, Parastatal institutions & committees, Academia, Agencies, NGOs, Communities & Users, Private Sector	<p>Development and update of qualitative study on the island's natural capital</p> <p>Number of quantitative studies on the islands natural capital</p> <p>Design of a board game</p> <p>Experiential learning session attendance ratio</p>

<i>Category</i>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
	<b>SO3</b>	<b>Key Biodiversity Areas (KBA) managed sustainably</b>			
I, L	A31	Support wide review and regular updates of KBA network	<p>Establish a national platform (national coordination group) for engaging with the government on IUCN red list of threatened species and KBA</p> <p>Promote the national platform role to inform spatial planning and decision-making</p> <p>Facilitate assessment of global red list</p> <p>Identify &amp; map terrestrial &amp; marine KBAs</p> <p>Submit completed KBA forms and supporting elements</p> <p>Study potential of the identified KBAs to be proclaimed as protected areas</p> <p>Develop guiding principles and recommendations for doing business in and around KBAs</p> <p>Secure editing of final lists, maps and guidelines and publish these online on the IUCN website and the global KBA database, making data available for the government and relevant stakeholders</p>	Government, Parastatal institutions & committees, Academia, NGOs, Communities & Users, Private Sector	<p>Percentage of landscape formally recognised as KBA</p> <p>Percentage of seascape formally recognised as KBA</p>
M	A32	Secure, support and monitor innovative, participative and effective site-specific management models to benefit biodiversity elements that have triggered the KBA identification	<p>Support development and/or regular review, through participatory processes, of endangered species action plan (especially birds)</p> <p>Promote intervention and management measures to control exotic invasive species expansion</p> <p>Improve surveillance and monitoring</p> <p>Support and develop public-private partnerships</p> <p>Develop innovative site-specific management models, focussing on biodiversity elements that have triggered the KBA identification</p> <p>Promote improved revenue generation and management models (including community management models)</p> <p>Finance rehabilitation/construction of key infrastructures, including reopening and maintaining of nature trails</p>	Government, Parastatal institutions & committees, NGOs, Communities & Users, Private Sector	Area of landscapes under improved management to benefit biodiversity

<i>Category</i>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
	<b>SO3</b>	<b>Key Biodiversity Areas (KBA) managed sustainably</b>			
M, P	A33	Support surveillance & monitoring in and around KBAs	Support development of a national environmental law enforcement strategy and action plan; including operational guidance for maritime surveillance Provide technical assistance Equip and train environmental guards Promote environmental patrolling effort & surveillance at key transit points Promote community surveillance mechanisms Lead on biodiversity & threat management oriented monitoring systems to assess trends Convene stakeholder platforms to ensure coordination Regularly update the national environmental law enforcement strategy and action plan	Government, Parastatal institutions, Communities & Users	Environmental patrolling effort: number of patrol days/yr. & total patrol km/yr. Percentage of reported cases of environmental infractions leading to due legal prosecutions
P	A34	Promote and support development of economic solutions for sustainable local development in communities as an alternative to the irrational use of natural resources	Develop and regularly update review of past and ongoing experiences (lessons learnt) to identify in a participatory manner the most relevant and cost-effective measures of economic solutions Develop a community ideas initiative to diversify and enhance livelihood options for targeted communities beyond direct natural resource extraction Assessment of microfinance opportunities Develop & support (finance & capacity) relevant mini-projects within target communities Promote small business training sessions for relevant stakeholders to include entrepreneurship, business planning and legal support	Communities & Users	Number of green jobs directly & indirectly created segregated by gender Share of household incomes based on economic alternatives to the irrational use of natural resources in PAs

Category	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO4</b>	<b>Comprehensive Protected Areas network effectively managed</b>			
L	A41	Support identification and formal designation of new terrestrial and marine protected areas	<p>Support participatory characterization and mapping of terrestrial, coastal &amp; marine habitats</p> <p>Use innovative methods to identify best-suited PA network that meets both conservation and sustainable use targets (e.g. KBA)</p> <p>Undertake spatial planning activities &amp; workshops with stakeholders to support PA network development</p> <p>Support the drafting of legislation establishing the PAs and the creation of appropriate participatory governance / oversight mechanism, including community management areas outside the PAs system</p> <p>Develop national &amp; site-based PA management plans</p>	Government, Parastatal institutions & committees, Communities & Users, Private Sector	<p>Percentage of landscape under legal designation as PA</p> <p>Percentage of seascape under legal designation as PA</p> <p>Biodiversity/habitat representativeness of areas under protection</p>
I, M, P	A42	<p>Facilitate development and implementation of effective protected areas management systems for enhanced on-the-ground PA management</p> <p><i>This includes, but is not restricted to, the existing Obô Natural Park &amp; Principe Natural Park and respective buffer zones; and the soon to be defined Marine Protected Areas, in particular the Ramsar site of the Tinhosas islands.</i></p>	<p>Support development and/or regular review, through participatory processes, of PA management plans</p> <p>Promote intervention and management measures to control exotic invasive species expansion</p> <p>Support PA staff capacity development</p> <p>Strengthen ecotourism capacities</p> <p>Improve surveillance and monitoring</p> <p>Support and develop public-private partnerships &amp; develop innovative site-specific management models</p> <p>Promote improved revenue generation and management models</p> <p>Finance rehabilitation/construction of key infrastructures, including the renovation of old park buildings and reopening and maintaining of nature trails</p> <p>Purchase protection, maintenance and monitoring equipment</p> <p>Convene PAs committees to ensure regular planning &amp; coordination</p> <p>Engage communities in PAs management by secure participation of community representatives (CSOs or individuals) in PAs management committees</p>	Government, Parastatal institutions & committees, NGOs, Communities & Users, Private Sector	<p>Management plans developed &amp; up to date (per PA)</p> <p>Management Effectiveness</p> <p>Tracking Tool Scores for PAs</p>

<i>Category</i>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
	<b>SO4</b>	<b>Comprehensive Protected Areas network effectively managed</b>			
P	A43	Promote and support development of economic solutions for sustainable local development in PAs neighbouring communities as an alternative to the irrational use of natural resources in PAs	<p>Develop and regularly update review of past and ongoing experiences (lessons learnt) to identify in a participatory manner the most relevant and cost-effective measures of economic support</p> <p>Develop community ideas initiative to diversify and enhance livelihood options for targeted communities beyond direct natural resource extraction</p> <p>Assess microfinance opportunities</p> <p>Develop &amp; support (finance &amp; capacity) relevant mini projects within target communities</p> <p>Promote small business training sessions for relevant stakeholders to include entrepreneurship, business planning and legal support</p>	Communities & Users	<p>Number of green jobs directly &amp; indirectly created segregated by gender</p> <p>Share of household incomes based on economic alternatives to the irrational use of natural resources in PAs</p>

Category	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO5</b>	<b>Biodiversity conservation mainstreamed across sectors</b>			
M	A51	<p>Forestry Sector (timber) – Promote and support effective and innovative solutions for the sustainable production and extraction of timber, promotion of environmentally friendly construction techniques and the economic transition of user groups</p>	<p>Prepare a timber supply and value chain analysis to inform the programme and programme partners for coherent and sustainable interventions and to identify further options for reducing timber extraction drivers; in particular for the public works and infrastructure / construction sector</p> <p>Introduce and establish new approaches, technologies and value chains to reduce rampant forest degradation and ecosystem loss caused by timber extraction (e.g. improved sawmills, wood waste utilization, development of alternatives)</p> <p>Develop an action plan for the promotion of environmentally friendly construction techniques (resources &amp; technical studies, open-access case studies &amp; constructions guidance's) [also considering sand extraction]</p> <p>Implement the action plan for the promotion of environmentally friendly construction techniques (including awareness raising, capacity-building, pilot activities)</p> <p>Undertake studies associated with research for financial/legal incentives &amp; promote solutions</p> <p>Support legal framework revision &amp; implement tools for law enforcement (control, monitoring and surveillance) of the timber supply and value chain</p> <p>Set in place income generating activities, from green enterprise and other sustainable livelihood initiatives, for chain saw operators and direct/indirect timber value chain beneficiaries</p> <p>Raise awareness and transfer relevant knowledge and technology skills for target groups to take ownership of measures proposed for a more sustainable timber supply and value chain</p> <p>Promote restoration of ecosystems by restocking the resource base with endemic and native commercial timber tree species</p>	<p>Government, Parastatal institutions &amp; committees, Academia, NGOs, Communities &amp; Users, Private Sector</p>	<p>Number of improved sawmills effectively in use</p> <p>Number of full-time commercial chainsaw operators harvesting unsustainably</p> <p>Percentage of approved infrastructure projects using alternatives to timber [also considering sand extraction]</p> <p>Share of household incomes based on newly adopted sustainable livelihood activities in targeted priority communities</p> <p>Endemic and native commercial timber trees planted and surviving across the forest landscape</p>

<i>Category</i>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
	<b>S05</b>	<b>Biodiversity conservation mainstreamed across sectors</b>			
L, M, P	A52	<p>Forestry Sector (charcoal) – Promote and support effective and innovative solutions for the sustainable production and extraction of charcoal, promote the development of alternatives to current practices and the economic transition of user groups</p>	<p>Prepare a charcoal supply and value chain analysis to inform the programme and programme partners on coherent and sustainable interventions and to identify further options for reducing wood-based charcoal extraction drivers</p> <p>Introduce and establish new approaches, technologies and value chains to reduce rampant forest degradation and ecosystem loss caused by traditional wood-based charcoal-making (e.g. improved kilns, plant-based alternative sources of charcoal, improved stoves &amp; biogas)</p> <p>Support legal framework revision &amp; implement tools for law enforcement (control, monitoring and surveillance) of the charcoal supply and value chain</p> <p>Set in place income generating activities, from green enterprise and other sustainable livelihood initiatives, for charcoal makers and direct/indirect charcoal supply and value chain beneficiaries</p> <p>Raise awareness and transfer relevant knowledge and technology skills for target group to take ownership of measures proposed to sustain a more sustainable charcoal supply and value chain</p> <p>Promote restoration of ecosystems by restocking the resource base with endemic and native fast-growing charcoal tree species</p>	<p>Government, Parastatal institutions &amp; committees, Academia, NGOs, Communities &amp; Users, Private Sector</p>	<p>Number of improved charcoal kilns effectively in use</p> <p>Number of fully-dedicated professional traditional charcoal-makers harvesting unsustainably</p> <p>Share of household incomes based on newly adopted sustainable livelihood activities in targeted priority communities</p> <p>Native or introduced not invasive fast-growing charcoal-making trees planted and thriving across the forest landscape</p>

<i>Category</i>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
	<b>S05</b>	<b>Biodiversity conservation mainstreamed across sectors</b>			
L, M, P	A53	Forestry Sector (Non-Timber Forest Products - NTFP) – Support competent authorities & partners for effective and innovative solutions for the sustainable use of NTFP, and further value chain enhancement	<p>Improve knowledge on Non-Timber Forest Products (inventory, surveys, mapping, management &amp; supply and value chain analysis)</p> <p>Support revision and implementation of the National Strategy and Action Plan for the development of the NTFP sector</p> <p>Develop Community Based NTFP Management through micro &amp; macro-zoning plans in targeted communities &amp; promote sustainable local use of PFNL for food and medicine</p> <p>Promote legal framework revision &amp; implement tools for Nagoya Protocol implementation (in particular Access &amp; Benefit Sharing)</p> <p>Enhance the value of endemic NTFPs and respective value chain (e.g. cosmetic, perfumery) &amp; promote development of small and medium enterprises for Non-Timber Forest Products collection, production and commercialisation (e.g. through credit lines and microfinance)</p>	Government, Parastatal institutions & committees, Academia, NGOs, Communities & Users, Private Sector	<p>Development and regular update of an NTFP inventory</p> <p>Number of NTFP value chains improved</p> <p>Number of NTFP management plans developed</p> <p>Number of NTFP related small and medium enterprises introduced by BirdLife</p> <p>Share of household incomes based on NTFP value chain enhancement in target communities</p>



Category	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO5</b>	<b>Biodiversity conservation mainstreamed across sectors</b>			
L, M, P	A54	<p>Agricultural Sector (agro-forestry &amp; diversification) - Promote and support farm holders, small and medium-sized enterprises and agribusinesses, towards sustainable practices, clean and environment-friendly, emphasizing biodiversity as an economic benefit</p>	<p>Ensure that biodiversity makes a sustainable contribution to food systems, in particular within the context of climate change and globalization and provide technical assistance to state actors, agencies and projects for better integration of biodiversity into agricultural planning</p> <p>Develop a locally adapted action plan for climate &amp; biodiversity-smart agriculture in agro-forest systems, based on an integrated environment approach, for local development and landscape conservation (e.g. use of endemic insects for biological control, developing a new value chain promoting biodiversity conservation, agro-eco-certification such as the Gold Standard for coffee production)</p> <p>Implement the action plan and support innovative methods toward agro-forest conservation and sustainable development of rural populations</p> <p>Promote shade grown cocoa in place of agricultural expansion and implement the BirdLife forest-positive cocoa landscape approach (Trillion Trees Cocoa Strategy)</p> <p>Create / promote food initiatives based on product diversification (agro-biodiversity and socio-biodiversity)</p> <p>Develop conservation enterprise models for smallholder producers</p> <p>Undertake review of value chains to allow for the development of markets for biodiversity-friendly products</p> <p>Promote agro-ecology practices to minimise the environmental impact of horticultural production and limit deforestation</p> <p>Raise awareness and transfer relevant knowledge and technology skills for target group to take ownership of measures proposed to sustain a climate &amp; biodiversity-smart agriculture in agro-forest systems</p> <p>Facilitate the exchange of knowledge and tools regionally and support the convening of national multi-stakeholder dialogues for biodiversity mainstreaming in agriculture (e.g. experience sharing trips, accelerator workshops)</p>	<p>Government, Parastatal institutions &amp; committees, Academia, NGOs, Agencies, Communities &amp; Users, Private Sector</p>	<p>Proportion of agricultural area under productive and sustainable agriculture</p> <p>Number of smallholder producers conservation enterprise</p> <p>Development and update of locally adapted action plan for climate &amp; biodiversity-smart agriculture in agro-forest systems</p> <p>Share of household incomes based on newly adopted sustainable agricultural practices</p> <p>Amount of BirdLife annual funding allocated to the agricultural sector</p>

Category	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>S05</b>	<b>Biodiversity conservation mainstreamed across sectors</b>			
L, M, P	A55	Energy and Water Sector (Water Management) – Improve integrated water resources management to strengthen resilience to climate change	Promote integrated solutions for the protection and restoration of forests on the watersheds and along the gradients, from the park - water tower - towards the water-intensive agricultural activities on STPs volcanic slopes; including actions related to elaboration of hydrographical basins & water catchment environmental protection plans	Government, Parastatal institutions & committees, Academia, NGOs, Agencies, Communities & Users, Private Sector	Water quality of freshwater ecosystems Number of initiatives dedicated to watershed protection Amount of BirdLife annual funding allocated to water management
L, M, P	A56	Energy and Water Sector (hydroelectricity) – Promote investments in off-grid or semi-off-grid clean & sustainable energy solutions and support strategic decision-making to ensure species & sites conservation and restoration	Prepare a comprehensive review of the impacts and species affected by energy infrastructure and potential new energy developments to inform the programme and programme partners of coherent and sustainable interventions and to identify further options for reducing energy related biodiversity loss drivers Advocate for strategic decision-making and the integration of results into national land-use plans Fundraise & lobby for the development of off-grid or semi-off-grid biodiversity-friendly energy solutions in rural areas Facilitate the exchange of knowledge and tools regionally and support the convening of national multi-stakeholder dialogues for biodiversity mainstreaming in energy	Government, Parastatal institutions & committees, Academia, NGOs, Agencies, Communities & Users, Private Sector	Development of comprehensive review of the impacts and species affected Regular update of land-use plans Amount of BirdLife annual funding allocated to biodiversity-friendly energy solution
L, M, P	A57	Fisheries – Promote sustainable exploitation of national fish stocks	Improve practices in key fleets in national waters and build capacity of observers and national scientists to collect, manage and analyse effort and bycatch of seabirds and sea turtles in trawl and longline fisheries data	Government, Parastatal institutions & committees, Academia, NGOs, Agencies, Communities & Users, Private Sector	Marine bird trends Observed / reported marine bird bycatch Emplacement of on-board monitoring systems, training of observers
L, M, P	A58	Oil & Gas Sector – Support national authorities to implement and improve environmental safeguards	Support capacity building and awareness-raising Support development of response plans in case of pollution due to offshore activities Support monitoring and strengthening of the regulation of offshore activities Support monitoring and strengthening of corporate social responsibility approaches	Government, Parastatal institutions & committees, Academia, NGOs, Agencies, Communities & Users, Private Sector	Number of publications regarding the location of vulnerable marine areas, the impacts & the current and potential location of drilling rigs Number of environmental contractual provisions in new oil & gas contracts

Category	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO6</b>	<b>Sustainable financing for biodiversity conservation and protected areas management available</b>			
M	A61	Facilitate development of a Sustainable Finance Plan for Biodiversity and Protected Areas	Facilitate development of a Finance Plan for biodiversity and Protected Areas (incl. Protected Area System finance needs and gaps assessment, feasibility/viability studies, implementation design / revenue management model and promotion plan) Create and maintain a database on biodiversity and PA financing	Government, Parastatal institutions & committees, NGOs, Communities & Users, Private Sector	Development and update of Sustainable Finance Plan for Biodiversity and Protected Areas Database on biodiversity and PA financing developed & up to date
M	A62	Implement and support development of 'best' revenue options for sustainable financing of biodiversity conservation and PA management	Access to financial flows for sustainability interventions via the setup of an international independent Conservation Trust Fund for STP & a campaign to capitalise its endowment fund, the implementation of REDD+ activities / carbon credit sales, oil & gas sector offset payments and any other options raised by the Finance Plan for Biodiversity and Protected Areas	Government, Parastatal institutions & committees, NGOs, Communities & Users, Private Sector	Financing made available for biodiversity and protected areas from sources beyond traditional external grants to governments or NGOs, and capitalisation of STP CTF endowment fund [interim indicator e.g. Status of Conservation Trust Fund for STP] Biodiversity conservation funding needs met by sustainable sources (disaggregated by type i.e. Conservation Trust Fund, private sector agreements, tourism, carbon, Payment for Ecosystem Services, etc.)
L, M, P	A63	Promote development of sustainable tourism	Participatory development & implementation of an eco-tourism action plan Develop innovative site-specific tourism management models of PAs & KBAs Support development of self-sustained cyclical training systems of certified and responsible eco-guides Promote and support regional and international communication on nature and adventure tourism Support investment or environment-friendly tourism Support development of efficient mechanism(s) for financial capitalization of tourism activities (certification system, entrance fees, financial redistribution) Promote training and support of community guides Set in place tourism related income generating activities in local communities	Government, Parastatal institutions & committees, NGOs, Communities & Users, Private Sector	Development and update of eco-tourism action plan Days of training session x number of pers. trained on eco-tourism Number of green jobs directly & indirectly created by eco-tourism development segregated by gender Share of household incomes based on eco-tourism

Category	Code	Strategic Objectives & High Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO7</b>	<b>Biodiversity conservation awareness raised at local, regional and global levels</b>			
P	A71	Design and implement communication campaigns for biodiversity conservation, protected areas and ecotourism	Ensure public awareness, disclosure of initiatives and communication on Natural Capital through the use of impactful images demonstrating connectivity and ecosystem services, and communication tools such as social media, educational campaigns, performing arts, music, fairs, trainings & workshops, guidance manuals, debates, contests & competitions, events, and medias	Government, Parastatal institutions & committees, Academia, Agencies, NGOs, Communities & Users, Private Sector	Number of communication campaigns developed & up to date Percentage of communication objectives met per campaign Trends in target population of environmental issues
I, P	A72	Build capacity of biodiversity conservation actors	Conduct regular consensus-building training needs and prepare a capacity development plan Provide training to raise awareness and technical capacity about biodiversity science, threats and conservation responses, across a variety of stakeholders, with the content suitably adapted to each particular stakeholder group Propose and facilitate advanced/specialised trainings (e.g. on remote sensing data) Provide regular engagement of rural community stakeholders for sustainable livelihood capacity development, addressing gaps in entrepreneurial and administrative skills	Government, Parastatal institutions & committees, Academia, Agencies, NGOs, Communities & Users, Private Sector	Development and update of capacity development plan Days of training session x number of pers. trained
I, L, P	A73	Secure strong vertical & horizontal coordination mechanisms	Support existing & establish / convene stakeholder platforms to ensure the coordination and participatory management of the environment (e.g. Sustainable & Responsible Tourism Platform, Law Enforcement Platform, Charcoal Platform, Restoration platform)	Government, Parastatal institutions & committees, Academia, Agencies, NGOs, Communities & Users, Private Sector	Frequency and number of participants at multi-stakeholder coordination committee meetings
L, P	A74	Develop and propose the integration of biodiversity, the environment and climate change on educational curriculum	Develop and propose the integration of biodiversity, the environment and climate change on the curriculum of the primary and secondary school educational system, through innovative learning tools	Government, Academia	Ratio of curriculum of the primary school educational system integrating biodiversity Ratio of curriculum of the secondary school educational system integrating biodiversity
M, P	A75	Facilitate access to education and training	Targeted education activities to share co-management benefits and information exchange from regional peers e.g. Cape Verde, Guinea Bissau, Angola, Mozambique Build a new cohort of national biodiversity conservation specialists, through subsidised post-graduate courses, subsidised internships in project and NGOs abroad, trainings, night classes	Government, Academia, NGOs	Number of persons beneficiating from the programme segregated by post-graduate courses, subsidised internships in project and NGOs abroad, trainings, night classes

Category	Code	Strategic Objectives & High-Level Activities	Principal Areas of Intervention	Main Stakeholders	Examples of Indicators
	<b>SO8</b>	<b>BirdLife national partner identified and empowered</b>			
P	A81	Identify & support conservation leaders	Identify and engage young conservationists Assist in development and implementation of individual strengthening plans Invest, or facilitate investment, in their professional development through grants, training and mentoring (e.g. Conservation Leadership Programme - <a href="http://www.conservationleadershipprogramme.org/">http://www.conservationleadershipprogramme.org/</a> , Tropical Biology Association - <a href="http://www.tropical-biology.org/">http://www.tropical-biology.org/</a> )	Government, Academia, NGOs, Communities & Users	Number of conservation leaders identified and supported by BirdLife
I	A82	Empower grassroots nature conservation organisations and facilitate access to conservation funding for local NGOs or CSOs platforms, in particular in terms of Organisational Development	Conduct organizational capacity assessments for local NGO, or platform of CSOs in STP involved in biodiversity conservation, sustainable natural resource management and sustainable development of communities Develop materials and processes for specific areas/topics identified as needed for capacity development, tailored to STP specificity, including training, mentoring and coaching of partners, peer learning and other methodologies Deliver customized capacity development-related activities in diverse areas of organizational development (i.e. program management, resource mobilization, policy & advocacy, communication and monitoring and evaluation) and technical capacity development Assist to identify and utilise a wide range of fundraising sources and mechanisms Support and expand a mentoring scheme Monitor and Evaluate capacity development in STP Jointly plan and/or delegate (whenever possible) activities with/to local NGOs Promote and facilitate access to bilateral & multilateral small grant program e.g. Critical Ecosystems Partnership Fund ( <a href="https://www.cepf.net/">https://www.cepf.net/</a> )	NGOs	Amount directly granted to local NGOs for biodiversity conservation Amount of grants facilitated to local NGOs for biodiversity conservation

<i>Category</i>	<i>Code</i>	<i>Strategic Objectives &amp; High-Level Activities</i>	<i>Principal Areas of Intervention</i>	<i>Main Stakeholders</i>	<i>Examples of Indicators</i>
I	A83	Identify and support a national NGO or platform of NGOs/CSOs to assume incremental responsibility in leadership and implementation of BirdLife strategy towards long-term partnership involvement	<p>Supports the identified Partner(s) to develop and strengthen systemic, institutional and individual capacity in crucial areas and to identify and nurture the next generation of conservation leaders to reach stability, secure and able to sustain their conservation impact long into the future</p> <p>Match technical assistance needs with individual experts from within or outside the BirdLife Partnership and support experience exchange.</p> <p>Build capacity tailored to the identified Partner(s) strengthening plan, focussing on BirdLife core priorities; (i) organisational finances, (ii) strategic and operational planning; (iii) developing membership; (iv) improving people and premises and; (v) improving external communications.</p> <p>Integration of the identified Partner(s) into a Partner Coordination framework to strengthen coordination of Supporting Partners' activities in the region for information sharing, promote synergy and joint fundraising, channelling financial resources and expertise available</p> <p>Leverage support and assist in fundraising for the identified Partner(s) to grow, undertake conservation work, strengthen their capacity and become financially self-sufficient</p>	NGOs	Percentage of BirdLife strategy led through local partner

By 2022, BirdLife will develop a country programme indicators framework realistic and complete, including an exhaustive list of means of verification.

## E. Programme Office alignment with strategy objectives

### Programme Administrative Structure and Staff Capacities

The new BirdLife Strategy for Sao Tomé and Príncipe formalises a shift to a programme-based approach. This will result in an increased demand on administrative capacity, with a need to maintain core functions and expenses such as salaries of non-project staff, rent, equipment, utilities, and communications. In addition, the organisational structure will need to reflect the added complexity that comes with a programmatic approach, requiring the recruitment, reassignment or maintenance of key positions. To ensure that core functions that are required to keep BirdLife functioning independent of any projects being implemented, BirdLife will need to establish a system of cost recovery to build up core or 'unrestricted' funds.

Table 12, as well as the proposed organisational charts (Fig. 13), present the proposed organisational structure of BirdLife office in Sao Tomé and Príncipe to effectively implement the strategy plan over a period of 5 years (2021-2025), with annual review required. It is recognised that it will take time to recruit positions, establish systems, and build core funding, and that the structure should grow in line with associated complexity. For example, the existing Finance and Administration Officer will likely continue to serve as the principal finance and administration staff member until milestones for project complexity and core funds have been reached. The structure will therefore grow opportunistically, and according to demand.

### Programme Steering Committee

The Programme Steering Committee is responsible for taking corrective action as needed to ensure the Country Office achieves the desired results.

Specific responsibilities of the Programme Steering Committee include:

- In coordination with BirdLife International Africa and the Global Secretariat, provide overall guidance and direction to the Programme;
- Address Programme issues;
- Provide guidance on new risks, and agree on possible mitigation and management actions to address them;
- Advise on major and minor amendments to the Programme;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies, local civil society and private sector; and their participation in Programme activities;
- Review the progress and assess performance on specific projects / initiatives;
- Appraise the annual implementation report;
- Address Programme-level grievances.

The composition of the Programme Steering Committee will depend on the projects being implemented in the framework of the strategy and respectively stakeholders involved. The composition of the Programme Steering Committee must include, but is not restricted to, the following roles:

- *Programme Executive*: Is an individual who represents ownership of the Programme and chairs the Programme Steering Committee [e.g. line minister(s)]
- *Beneficiary Representatives*: Individuals or groups representing the interests of those who will ultimately benefit from the Programme [Government body(ies), Civil Society Representative(s), Private Sector Representative(s), Communities representative(s)]
- *Development Partner(s)*: Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the projects being implemented.

Table 12: Human Resources plan for BirdLife International São Tomé & Príncipe 2021-2025

#	Position	Time allocation*	Description
		Out-posted staff	[core for BirdLife Africa Partnership Secretariat]
01	Africa Regional Director	c. 10%	Supervision
02	Africa Head of Conservation	c. 20%	Supervision
03	Africa Communications Manager	c. 15%	Regular supports
04	Africa Partnership Coordinator	c. 10%	One-off supports
05	Africa Finance Unit Coordinator	c. 10%	Finance review
06	Africa Administration Unit Coordinator	c. 10%	Administration review
07	Africa Fundraising Coordinator	c. 5%	Fundraising
08	Africa Forest Coordinator	-	One-off supports
09	Africa Forest Officer	-	One-off supports
10	Africa Finance Business Partner	c. 5%	Finance control
11	Africa Policy and Communications Coordinator	c. 3%	One-off supports
		In-country staff	
12	Head of Projects Office	100%	To provide management and leadership for effective delivery of the projects, fundraise and build strategic alliances and reputation for sustained biodiversity and ecosystems conservation actions, and head the office in São Tomé and Príncipe.
13	Policy & Advocacy Manager	100%	Provide informed/evidenced support to increase the management effectiveness of PAs, reducing forest degradation, and improving environmental law enforcement. Provide inputs on how to streamline the existing environmental legal and regulatory framework. Support development and implementation of strategic approach to stakeholder engagement with governmental and non-governmental partners. Strengthen partnerships with leading national and international institutions and expert groups. Assist in the implementation of knowledge management activities, including distilling and documenting lessons learned, and developing strategic messaging.
14	<i>Policy &amp; Advocacy Intern</i>	<i>50% (6m/y)</i>	<i>Description defined according to the candidate, and according to the needs of the division.</i>
15	Communications Officer	100%	Engage, educate, and inform targeted external audiences about São Tomé and Príncipe landscapes & seascapes, in the framework of BirdLife-led Programme for biodiversity conservation, through creative use of various media. Develop and sustain adaptive awareness campaign through social media, local TV & radio channels, print materials (flyers, panels, articles, reports) and newsletter. Lead BirdLife São Tomé and Príncipe programme communications team.
16	Communications Assistant	50%	Support Communications Officer; in particular through development of content, accompanying activities & reporting and digital media.
17	Sustainable finance & biodiversity mainstreaming Officer	100%	Support development and further implementation of the Protected Areas and Biodiversity Sustainable Finance Plan; and associated Business Plans for the Sao Tomé Obô Natural Park and Principe Natural Park; mainstreaming Biodiversity in Sectorial Activities, in the Public Sector, in Policy and at Institutional Level
18	Capacity Development Officer (currently 'Projects Technical Advisor')	100%	Conduct organizational capacity assessments for local NGO, or platform of CSOs in STP (partners). Develop materials and processes for specific areas/topics identified as needed for capacity development, tailored to STP specificity, including training, mentoring and coaching of partners, peer learning and other methodologies for



#	Position	Time allocation*	Description
			BirdLife team (internal) and local partners (external). Assist in development and implementation of individual strengthening plans. Deliver all customized capacity development-related activities in diverse areas of organizational development (i.e. program management, resource mobilization, and monitoring and evaluation) and technical capacity development. Assist BirdLife team (internal) and local partners (external) to identify and utilise a wide range of fundraising sources and mechanisms. Match technical assistance needs with individual experts from within or outside the BirdLife Partnership and support experience exchange. Support and expand a mentoring scheme. Monitor and Evaluate capacity development in STP. <i>(Provide support and technical guidance to BirdLife local team to build capacity and knowledge for effective delivery of the projects' actions. Develop work plan and facilitate tasks. Provide scientific and technical assistance to the Project Managers. Support research, monitoring and evaluation as well as learning and reporting of activities. Provide ongoing mentorship and support to staff, and Government line directorates' agents.)</i>
19	São Tomé Projects Manager (the current 'São Tomé Projects Officer' position is expected to evolve to a Manager position by 2022)	100%	Manage activities for effective delivery of the projects in São Tomé. In particular, to act as Technical Advisor to the government line directorates for forest, biodiversity and protected areas management. Support in building strategic alliances and reputation for sustained biodiversity and ecosystems conservation actions in São Tomé and Príncipe. Engage for network development. Promote & facilitate capacity building activities for local CSOs / NGOs. The São Tomé Projects Manager will also act as a focal person for BirdLife's <i>CEPF Guinean Forests of West Africa Regional Implementation Team (CEPF GFWA RIT)</i> .
20	São Tomé Conservation Officer (the current 'São Tomé Field Officer' position is expected to evolve to a Conservation Officer position by 2022)	100%	Support on the ground activities of the projects in São Tomé island, including undertaking field assessments and monitoring, community engagement and empowerment initiatives; and providing administrative and logistical support for project.
21	<i>São Tomé Conservation Intern</i>	<i>50% (6m/y)</i>	<i>Description defined according to the candidate, and according to the needs of the division.</i>
22	Príncipe Projects Manager (the current 'Príncipe Projects Officer' position is expected to evolve to a Manager position by 2022)	100%	Manage activities for effective delivery of the projects on Príncipe. In particular, to act as Technical Advisor to the regional line directorates for forest, biodiversity and protected areas management. Support in building strategic alliances and reputation for sustained biodiversity and ecosystems conservation actions in São Tomé and Príncipe. Engage for network development. Promote & facilitate capacity building activities for local CSOs / NGOs.
23	Príncipe Field Officer	100%	Support on the ground activities of the projects in Príncipe island, including undertaking field assessments and monitoring, community engagement and empowerment initiatives; and providing administrative and logistical support for project.
24	<i>Príncipe Conservation Intern</i>	<i>50% (6m/y)</i>	<i>Description defined according to the candidate, and according to the needs of the division.</i>
25	Finance & Administration Manager (the current 'Finance & Administration Officer' position is expected to evolve to a Manager position by 2022)	100%	Ensure effective finance and administration management for the BirdLife team and office in São Tomé and Príncipe.
26	Administration and Procurement Officer	100%	Support effective administration and human resources management and ensure transparent and cost-effective procurement for the BirdLife team and office in São Tomé and Príncipe.

#	Position	Time allocation*	Description
27	Logistic Assistant	100%	Support effective administration and finance management, including logistic and planning, for the BirdLife team and office in São Tomé and Príncipe.

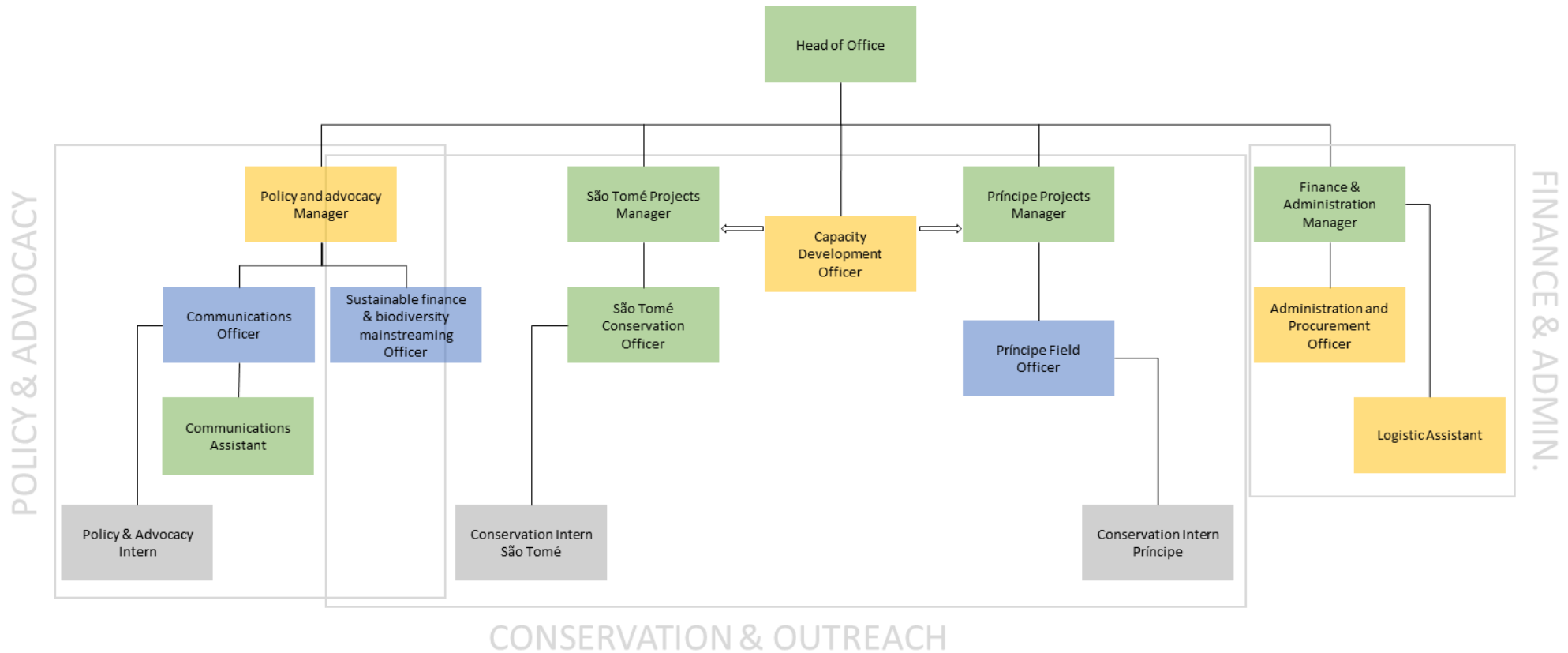


Figure 13: BirdLife São Tomé and Príncipe Organisation Chart (by 2022)

[green – staff in place; blue – staff currently being recruited; yellow – staff to be recruited; grey – one-off temporary position, of limited duration (max. 6 months)]

## F. Alignment with national policies and priorities and international conventions and relevance to SDGs

The BirdLife Sao Tomé and Príncipe Programme is consistent and fully in line with various national plans, priorities and policies and international conventions

First and foremost, it is aligned with the National Commitments towards the Sustainable Development Goals (SDG); specifically:

- SDG 15: Life on Land, targets 15.1, 15.2, 15.4, 15.5, 15.6, 15.8, 15.9, 15.A&B;
- SDG 14: Life Below Water targets 14.2, 14.4, 14.5, 14.7, 14.A&B;
- SDG 12: Responsible Consumption and Production targets 12.2, 12.5, 12.8, 12.A&B;
- SDG 13: Climate Action targets 13.1, 13.2, 13.3;
- SDG 17: Partnerships targets 17.1, 17.3, 17.7, 17.9, 17.11, 17.14, 17.16, 17.17, 17.18, 17.19;

and, indirectly and/or at a lower extend and/or based on approach, SDG 6: Clean Water and Sanitation; SDG 7: Affordable and Clean Energy; SDG 11: Sustainable Cities and Communities; SDG 1: No Poverty; SDG 3: Good Health and Well-Being; SDG 4: Quality Education; SDG 2: Zero Hunger and SDG 5: Gender Equality.

The Programme is consistent with the current Second National Poverty Reduction Strategy (SNPR) 2012-2016, which focuses on achieving sustainable economic growth and making the economy more competitive by promoting agriculture, fisheries and tourism as key sectors for growth and employment, through a rational use of natural resources.

The general sustainable development approach of the Programme is aligned with all the strategic direction documents developed for the 2015-2030 period, which aim to transform São Tomé and Príncipe into a united society based on cultural values, establishing public policies that incorporate ethical precepts and respect for others and the environment, through the prioritization of sustainable development as a broad, strategic, integrated and inclusive commitment to all groups and sectors of society; in particular:

- National Consultation Report for the Post-2015 Development Agenda (2015);
- General Points of the Country's Development Agenda 2030 (2015);
- São Tomé and Príncipe 2030 Strategy (2010);
- São Tomé and Príncipe 2030, the Country We Want (2015); and
- 2030 Sustainable Development Plan for the Autonomous Region of Príncipe (2019).

The Programme is aligned with the Nationally Determined Contributions (NDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC), which focuses not only on mitigation (to reduce national Green-House Gases emissions of 24% by 2030, and maintain the country status of a "carbon sink"), but also on the adaptation to climate change of the agriculture and forest sectors. The Programme activities are aligned with different targets of the NDCs, reflected also in the National Forest Development Plan 2018-2030, as both ask for a reduction of illegal logging by 15% by 2030.

The Programme is aligned with the National Forest Development Plan 2018-2030, which promotes the contribution of the forest sector and biodiversity to the sustainable development of the country, through the preservation, conservation, development and use of forests and their resources for the benefit of present and future generations, in particular outside of the PA.

The Programme is aligned with the Strategy on Desertification and Land Degradation (2005), which prioritizes prevention of erosion through the extension and protection of forests. The Programme does respond to the strategic guidelines (SG) of the elaboration document, by including the civil society in the implementation process as well as by developing Public-Private Partnerships to limit deforestation:

- SG1: Strengthening of legal and institutional capacities in the fight against land degradation and deforestation;
- SG2: Consider non-governmental organisations, associations and civil society as fundamental to the fight against desertification; creating partnership with NGOs in the areas of awareness, training, information and reinforcement of technical and financial assistance;
- SG3: Involve private sector as a partner of the Government to relaunch economic growth and provide capacity-building interventions, to promote awareness raising and mobilisation actions so that interventions in

productive systems do not affect soil degradation and deforestation; engage the private sector (agriculture) to undertake appropriate technologies to combat soil degradation and deforestation.

The Programme contributes directly to the STP's National Voluntary Targets towards Land Degradation Neutrality adopted in 2018, which inter alia commits the country to:

- By 2030, reduce to less than 5% the conversion of forests and savannahs to other land uses;
- Reduce illegal logging from 85% to 15% by 2030;
- By 2025, restore about 32,000 ha of degraded forests and landscapes;
- By 2030, improve the charcoal manufacturing process by 50%, thereby improving productivity (efficiency) and reducing waste.

The Programme responds strongly to a range of elements of the National Biodiversity Strategy & Action Plan 2015-2020 – NBSAP II; by strengthening of in situ conservation, valuing biodiversity of the forest ecosystem, facilitating ex situ conservation of plants and supporting enhancement the institutional, legal and regulatory framework. The fundamental objectives are:

- The conservation of coastal and marine ecosystems and their biological diversity;
- The conservation of inland waters ecosystems and their biological diversity;
- The conservation of forest ecosystems and their biological diversity;
- The conservation of agrarian ecosystems and their biological diversity;
- Conservation of biodiversity and use of their resources, based on an institutional legal and socioeconomic framework more vigorous and actual.

The Programme will directly contribute to the Convention on Biological Diversity Strategic Goals

- A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society / Aichi targets 1 & 2;
- B: Reduce the direct pressures on biodiversity and promote sustainable use / Aichi targets 5, 6, 7 & 9;
- C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity / Aichi targets 11 & 12;
- D: Enhance the benefits to all from biodiversity and ecosystem services / Aichi targets 14 & 15;
- E: Enhance implementation through participatory planning, knowledge management and capacity building / Aichi targets 19 & 20

The Programme is aligned with the vision defined in the Strategic and Marketing Plan for Tourism in São Tomé and Príncipe 2018: 'In 2025, São Tomé and Príncipe is the most preserved island tourist destination in Equatorial Africa, with a unique nature and biodiversity, which aims to promote natural capital and its preservation for local development and growth of the country.'

#### IV. STAKEHOLDERS ENGAGEMENT AND PARTNERSHIP

The BirdLife International approach to conservation and development is participatory. Therefore, throughout the current projects' implementation and development of the strategy, extensive efforts were made to engage relevant stakeholders. This was done through more than a year of advocacy by the BirdLife Sao Tomé and Príncipe team, working directly with different government agencies, several national and international NGOs and private sector companies and further partners present in the country. Several consultation meetings and workshops were held with key government agencies and partners, and communities and rural stakeholders, to identify needs and priorities and align these through the strategy with the BirdLife International approach to conservation (e.g. workshops & meetings for project developments, debates or public presentation; public funds channelling [GEF], etc.). A list of the key stakeholders consulted along with project activities regarding birdlife approach is provided in **Annex 4** (non-exhaustive list).

A participatory approach will be maintained during implementation and BirdLife will actively coordinate with relevant Government Ministries, Departments and Agencies and other development partners as well as NGOs and research institutions and the community to facilitate synergies and avoid duplication of efforts.

A comprehensive review of national stakeholders and respective description can be found in **Annex 5**.

Stakeholders to be considered in Programme implementation are ranging from communities, government staff, technicians, private sector operators, NGOs and CBOs (table 11).

By 2022, BirdLife will develop an in-depth stakeholder analysis (level of influence, level of engagement, level of awareness, etc.).

**Table 13: Main stakeholders in São Tomé and Príncipe**

National Central Government & Government of the Autonomous Region of Príncipe	Ministry of Agriculture, Fisheries and Rural Development	Directorate for Forests and Biodiversity Department of Land Affairs Directorate of Agriculture and Rural Development Directorate of Study and Planning Rural Development Support Centre & Regional Delegations Agricultural Technical Improvement Centre Agricultural and Technological Research Centre Directorate for Fisheries and Fishery Resources
	State Secretariat for Public Works, Environment and Spatial Planning	General Directorate for the Environment Directorate of Geographical and Cadastral Services
	Ministry of Infrastructure, Natural Resources and Energy	General-Directorate for Natural Resources and Energy
	Ministry of Planning, Finance and Blue Economy	Trade and Investment Promotion Agency
	Ministry of Tourism and Culture	General Directorate for Tourism and Hospitality
	Ministry of Defence and Internal Affairs	Military Forces, National Police & coast guard
	Ministry of Justice, Public Administration and Human Rights	
	Regional Secretariat for Environment and Sustainable Development of Príncipe (SRADS)	Directorate for Environment and Nature Conservation Regional Department for Public Works, Urbanism and Spatial Planning
	Regional Secretariat for Economy and Culture of Príncipe (SREC)	Regional Directorate of Tourism, Commerce, Industry and Culture Regional Directorate for Agriculture, Fisheries and Rural Development
Parastatal Committees & National Platforms	National Platform for Forest and Landscape Restoration of São Tomé and Príncipe Implementation Cell of the National Land Use and Management Plan	

	National Committee on Climate Change	
Academia	Ministry of Education and Higher Education	University of São Tomé and Príncipe
Multilateral Agencies	United Nations Development Programme International Fund for Agricultural Development Food and Agriculture Organization of the United Nation African Development Bank The World Bank Group Delegation of the European Union to Gabon, Sao Tomé-et-Príncipe and CEEAC International Union for Conservation of Nature	
Non-Governmental Organizations	Fundação Príncipe Oikos – Cooperação e Desenvolvimento Federação de Organizações Não Governamentais em São Tomé e Príncipe Platform for Responsible and Sustainable Tourism Gulf of Guinea Biodiversity Centre MAR Ambiente Pesca Artesanal Associação Programa Tatô Apoio ao Desenvolvimento de Iniciativas Locais (ZATONA ADIL) Associação Monte Pico Ação para o Desenvolvimento Agropecuário e Proteção Ambiental ALISEI TESE - Associação para o desenvolvimento Quá-Téla Federação Nacional dos Pequenos Agricultores	
Community Based Organisations & Groups	Local communities Landowners User groups	
Private Sector (Agribusiness and Agriculture)	Valúdo HBD Export Cooperatives CECAB (Cooperativa de Exportação de Cacau Biológico), CECAQ-11 (Cooperativa de Exportação de Cacau Convencional), CECAFEB (Cooperativa de Exportação de Café Biológico), CEPIBA (Cooperativa de Exportação de Pimenta Biológica) Agripalma Diogo Vaz Claudio Corallo	

For each initiative proposed in the operational framework (project, sub-project), BirdLife commits to develop a comprehensive Stakeholder Engagement Plan, including project stakeholders role, stakeholder engagement methods & means and rules for communication, reporting and timetable of stakeholders engagement. In addition to emphasizing stakeholder engagement, BirdLife invests significantly in capacity building of stakeholders. BirdLife head of project office will hold responsibility for implementation of the stakeholder engagement plan at the whole-projects level.

## Annex 1 - THREATS TO BIODIVERSITY IN SAO TOMÉ AND PRÍNCIPE

### A Threats to marine life and ecosystems

#### **A1 Habitat loss**

There is presently no evidence for significant marine habitat loss in STP. Coastal constructions affecting actual marine habitats are limited, but port construction and sedimentation are likely to have caused local impacts. Some fishing practices are known to cause habitat degradation and loss, most notably bottom-trawling and dynamite fishing. As dynamite fishing is still being practiced in STP one can surmise that impacts exist. There are no reports from impacts by bottom-trawlers. As the corals in STP are not reef-building, there are only limited impacts from traditional line and net fisheries.

Sand mining is negatively impacting beach habitats and therefore a major threat to sea turtle reproduction, see below; but this is counted as a threat under the terrestrial biodiversity section because the management response falls under terrestrial intervention mandates.

#### **A2 Natural resource use and over-exploitation**

##### **A2.1 Unsustainable and harmful fisheries and related impacts**

Unsustainable and destructive (e.g. dynamite fishing, non-selective gear, scuba spearfishing) fishing practices have led to local stock declines of fisheries resources (especially demersal) with significant impact on the marine trophic chain and ecosystems. In Príncipe, 67% out of 355 surveyed fishers and fish traders have perceived a decline in total fish catches over the last 10 years, suggesting significant changes in marine ecosystems. With the decline of resources (especially of the most valuable species such as Atlantic Wreckfish (Cherne) *Polyprion americanus*), local artisanal fishermen are now increasingly travelling further, often without suitable fishing boats and safety equipment, risking their lives. On São Tomé fishing is very intense in the northern part of the island due to the higher density of people and the proximity to the capital, and fishers are now increasingly targeting the richer waters of the south. According to recent surveys, 70% of all fishers actively exploiting the southern fishing grounds reside in communities located on the northern coast of São Tomé. Fishers from São Tomé also increasingly travel to the less exploited waters around Príncipe and the surrounding islets including the Tinhosas Islands that will be proclaimed a marine PA in the future, which generates conflict between fishers from the two islands.

In São Tomé and Príncipe, 15% of the working population is involved in artisanal fisheries, and more than 30,000 people benefit indirectly from the fishing sector. Coastal communities depend on fish resources for animal protein consumption and income generation. A gradual decline in fish abundance and the growing use of destructive fishing practices are growing threats to the main source of protein for the island population. Today, overfishing and habitat degradation are negatively impacting the viability of fishing livelihoods on both islands. As a result, fishers are resorting to illegal wildlife harvesting and/or unsustainable fishing practices.

The threat from unsustainable artisanal fisheries is compounded by foreign industrial trawlers operating in STP's Exclusive Economic Zone (EEZ). Some of these operate under bilateral agreements with the STP government, however both these and others without any licenses and are engaged in Illegal, Unreported and Unregulated fisheries. Automatic Identification Systems are in place and were due to be put into practise by 2018, but overall, government capacity to patrol and enforce its marine area is limited.

In addition, there is a growing whale and dolphin watching industry that can cause harm if not adequately regulated and monitored. Also, cetaceans and sea turtles are caught accidentally as bycatch.

##### **A2.2 Sea turtles: capture, egg collection and bycatch**

Sea turtles have been traditionally exploited for human consumption in STP, adult turtles being killed for their meat and eggs being collected on nesting beaches – with adult sea turtles indiscriminately captured through hooks, harpoons and gillnets set in front of the main nesting beaches surrounding the island (Castroviejo et al. 1994). In addition, some sea turtle by-products are used for traditional medicinal purposes; noting that in STP sea turtles are not used in religious ceremonies like in some countries in West Africa. The manufacture of handicraft (mainly

jewellery) from its shell was the greatest driver behind the indiscriminate harvesting of Hawksbill Turtle (CR) in the past, especially in the 1990s. Until recently it was common to find sea turtle jewellery in the street and in shops of São Tomé for sale to tourists, yet such products are difficult to find in local markets today. However, local crafters have reported trade with Angola.

Despite the promulgation of a national law in 2014 for the protection of sea turtles, the decline in fish abundance and growing demand for animal protein (linked to human population growth) encouraged local communities to target even more sea turtles than previously.

In 2003, the local NGO MARAPA (Sea, Environment and Artisanal Fisheries) created Programa Tatô with the purpose of protecting sea turtles. For years, MARAPA had the support of several national and international organizations, most notably the EU under past phases of the ECOFAC project. In 2018, the Association Programa Tatô was created to give more sustainability to this program thus maintaining the name, already known by all communities, national authorities, and civil society. The association incentivizes community rangers to monitor and register any kind of suspicious activity to capture sea turtles or eggs on nesting beaches. Through the efforts over the last 4-5 years, the illegal captures have been reduced by a factor 10 in São Tomé. However, the threat remains strong in the northern part of the island, in the communities between Morro Peixe and Micoló (Programa Tatô, 2019; Praia Gamboa, Neves and Santa Catarina), wherefore these practices continue to represent an important threat to sea turtles in STP. Egg poaching for subsistence continues to be a common practice in local communities and a variety of animals, including crabs, rats, dogs and pigs, also predate eggs and hatchlings. Similar interventions are being led on Príncipe Island, through the Fundação Príncipe.

In addition, sand mining is negatively impacting beach habitats and therefore major threat to sea turtle reproduction; but this is counted as a threat under the terrestrial biodiversity section because the management response falls under terrestrial intervention mandates.

### **A3 Pollution**

Pollution from rivers carrying pesticides and from urban liquid waste emissaries are a major threat to marine ecosystems in STP. There are anecdotal reports that the application of pesticides in the fight against malaria has damaged marine life (corals) in at least parts of São Tomé.

The pollution with plastics (plastic bags and items, fishing lines and nets, micro plastics) from land sources as well as from cargo and fishing boats is becoming an emerging problem that has affected sea turtles and cetaceans. It may potentially affect the entire marine food chain yet there is no evidence at this stage.

Noise pollution from shipping and seismic surveys linked to oil and gas exploration are transforming the marine soundscape and there is a growing concern over the potential impacts on marine fauna (Compton et al. 2008; Hatch and Wright 2007), Lavender et al. 2014; Weir and Dolman 2007).

The anticipated start of oil & gas exploitation in STP's territorial waters may also cause pollution both from continuing emissions from deep-water wells but also from accidents. This is not a threat at this stage yet there have been cases of oil tankers cleaning their tanks in the waters of STP.

### **A4 Invasive alien species**

There are no reports or evidence yet for the presence of or impacts from marine IAS, yet this may be due to the lack of relevant research.

### **A5 Climate change**

Climate change is expected to cause major impacts on fish stocks affecting reproduction, distributional ranges of stocks and migration patterns. Given that STP relies heavily on fisheries resources in terms of food security, as explained above, impacts may be severe unless fisheries and marine ecosystems are managed for resilience – which will require stock management, marine ecosystem and conservation, and reducing other stress factors such as disturbance and pollution.



The land ecosystems in STP have been exposed to human change for centuries. Plantation agriculture introduced under the Portuguese colonial system led to the conversion of major parts of the islands' primary forests into to produce sugar cane, cocoa and coffee as well as bananas and maize, subsistence and commercial crops. Most of the lowland forest as well as part of the forest in mountain areas were deforested in the northern and eastern areas of the island of São Tomé (Carvalho et al. 2004). In the mid-nineteenth century, about 70% of the island was cultivated in a system of large farms, where cocoa and coffee crops were grown under shade trees, mainly *Erythrina sp.* (Peet and Atkinson, 1994; Birdlife International, 2014; Jones and Tye, 2006).

The present analysis focuses on the current situation against this background, to identify the main direct drivers that today threaten the significant endemic and threatened biodiversity that STP retains, especially in its forest ecosystems.

## **B1 Land-use change and habitat loss**

### **B1.1 Habitat loss from large-scale infrastructure developments**

This is one of the larger-scale threats that could cause transformative, devastating impacts on key ecosystems if not addressed and managed properly. This type of threat can result from singular, discrete large-scale land conversions promoted or endorsed by government decision-makers.

The analysis below presents some examples and known current risks, but there will be others. Environmental Impact Assessment would be expected to mitigate major impacts, however the EIA framework and its implementation in practice may not be able to halt such developments where social or political pressure will be strong.

There are long-standing government plans to complete the road around São Tomé, constructing the missing quarter (c. 25 km) in the SW needed to close the loop; this includes the last area where the PNOT stretches from the mountain peaks down to the coast covered in mostly primary forests. The construction and road would cause major direct and indirect damage, impacting forests, opening access, causing landslides, erosion and sedimentation.

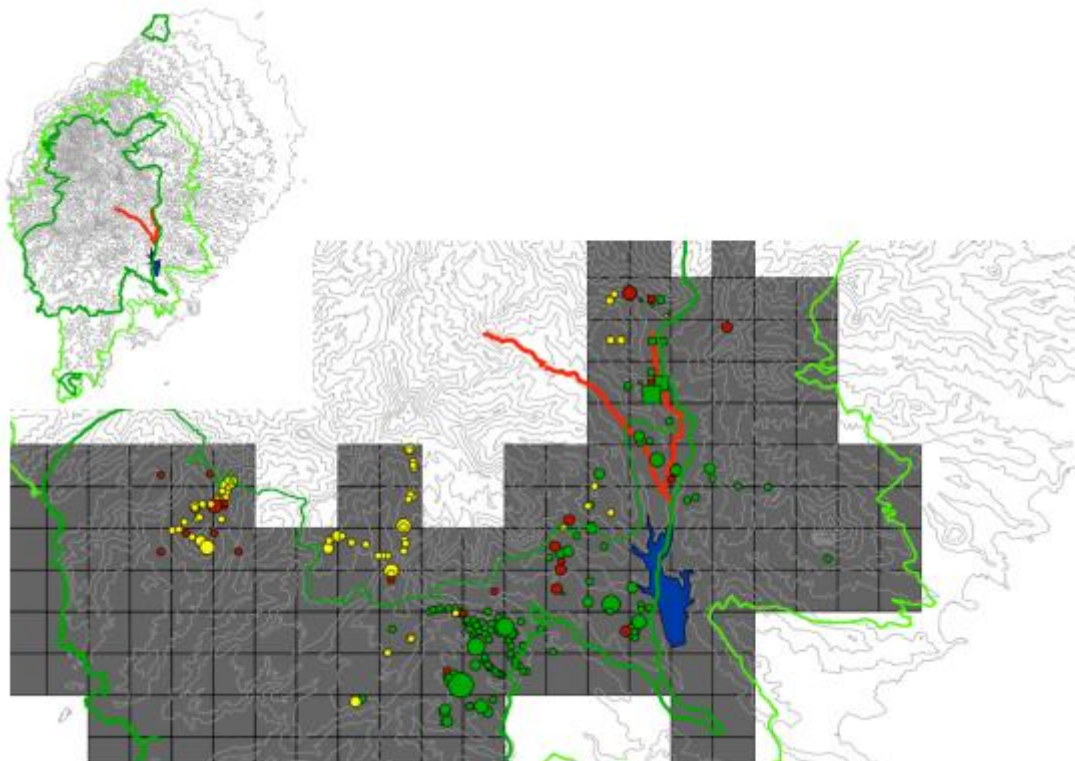
There is a risk of large-scale tourism infrastructure developments, including some promoted by foreign countries, that could be placed in valuable coastal areas including for purposes such as casinos that cannot be expected to benefit ecosystem conservation. If approved at all under the national tourism strategy (which focuses on a "remote paradise" image), such developments should be placed in areas of low landscape and conservation value.

On Príncipe, the new settlement Terra Prometida is currently being finalized to resettle 100 inhabitants of a colonial plantation farm (Roça Sundry) being converted into a luxury hotel, led by UN-Habitat with funding from private tourism operator HBD. A forest area was granted in the centre of the island for that purpose, next to the Azeitona Forest PA.

The government has for long had plans to build one or several hydro dams on São Tomé, for which it has sought international funding, to solve the island's chronic electricity shortages. An alternative will be the construction of several mini or micro hydro-energy projects, for which the plans must be developed.

Currently, the Power Sector Recovery Project (PSRP) is the first World Bank (WB) lending operation in the energy sector in STP, with parallel co-financing by the European Investment Bank. The PSRP focuses on the rehabilitation and expansion of the hydroelectric power generation system of Contador, in the watershed of the Contador River, in the north-west of the island. This system has been operating for about 50 years and in the last few decades has not received the required maintenance. The project is implemented in the District of Lembá and, in addition to the Contador River itself, it concerns five of its tributaries: Zico, Vilela, Angolar, Lisboa, and Agrião. The upper part of the Contador River watershed lies within the boundaries of the PNOT, in an area of high environmental and biodiversity value. The project is classified as Category B in the WB's Environmental Assessment classification due to the small size and site-specific nature of its anticipated social and environmental risks and impacts. According to the Environmental and Social Management Framework report prepared for the project in April 2016, the potential negative impacts likely to be caused by the project are site-specific, limited, and mostly temporary. However, while the project is consensual and a priority for the sector, the WB's rules to identify the Category are of international criteria that hardly apply to a Small Island State. An Environmental and Social Impact Assessment, and an Environmental and Social Management Plan has been developed by the consulting company JGP Consultoria e Participações Ltda., in partnership with AFAP (Agência Fiduciária para Administração de Projeto). Despite contributions from BirdLife and academic partners, the study takes only a cursory look at biodiversity aspects.

Plans also exist to build three hydroelectric dams in Yô Grande River, in the district of Caué in the SSE of São Tomé. The proposed project location challenges the goals of the PNOST. The project stretches into the NP's core zone and would have direct adverse impacts on key biodiversity sites – for example, it would impact the habitats of two endemic and Critically Endangered birds, the Sao Tomé Grosbeak and the Dwarf Olive Ibis. Alternative plans must be sought that reconcile the legitimate need for electricity generation with biodiversity and ecosystem conservation.



Annex 1 / figure 1: Localization of the proposed dam and records of Critically Endangered birds, São Tomé Dwarf Ibis (green), Newton's Fiscal (yellow) and São Tomé Grosbeak (red).  
*Size of dot indicates number of records.*

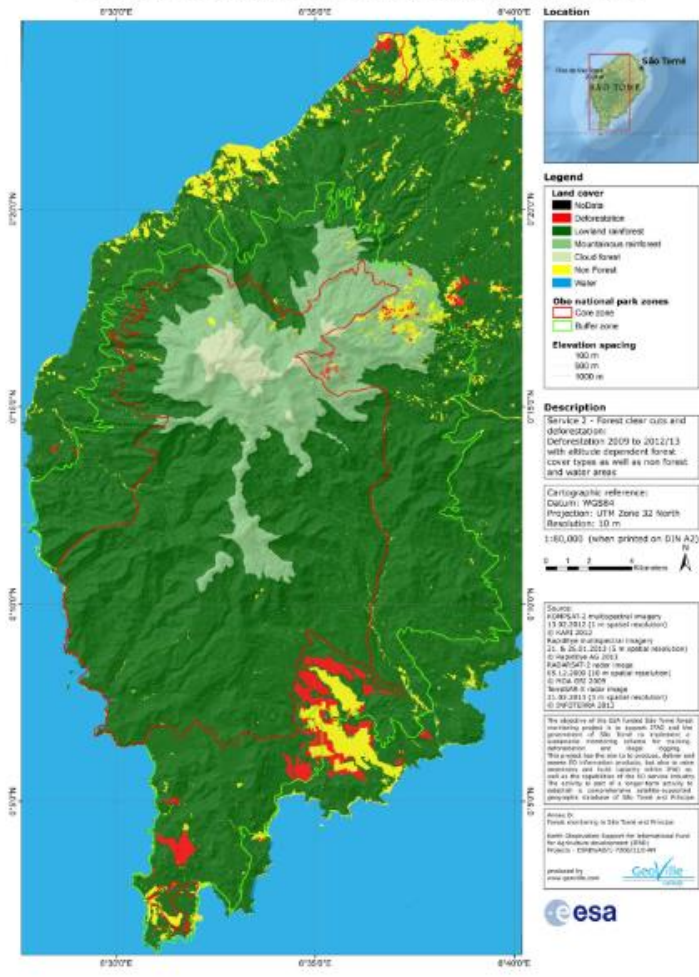
### B1.2 Forest habitat loss due to conversion for agriculture

Deforestation in STP peaked in the early 20th century, driven by the expansion of commodity plantations (coffee, cacao), many of which were subsequently abandoned after the country gained independence in the 1970s, creating most of today's secondary forest. More recently, the granting of new agricultural concessions and the spread of small-scale farming (agriculture and agroforestry, for subsistence and local markets) have prompted renewed levels of deforestation – of both secondary forests and of valuable forests including HCV areas, including significant areas in PA buffer zones. This is done in the hope to bring abandoned agricultural plantations back into use to rehabilitate the cash-crop industry (Barros, 2013), however, the spread of smallholder farming that increasingly encroaches illegally on public forestlands and the NP is also a result of a dated land tenure regime as well as of weak land use planning and surveillance.

On the island of Príncipe, recent deforestation from land conversion has been limited and largely confined to the north of the island.

For São Tomé, the following map shows the deforestation that occurred between 2009 and 2013, with the different sources of impact. The estimated average annual deforestation rate on the island for the 2009-2013 period was 0.5% (R-PP, 2014).

São Tomé - Forest Clear Cuts and Deforestation 2009-2012/13



Main causes of deforestation over the period (red):

North:

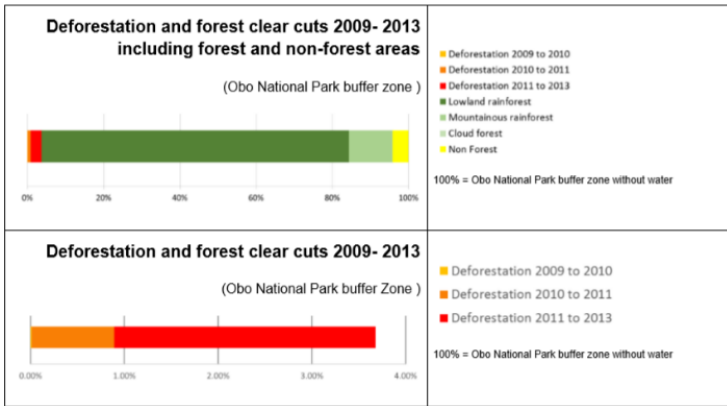
- Slash & burn agriculture,
- Unregulated fires,
- Charcoal production,
- Urbanization.

Center:

- Horticulture

South:

- Large red/yellow area: AgriPalma oil palm plantations (the survey period coinciding with the investment phase of the AgriPalma plantation)
- Malanza, Porto Alegre in the far south: firewood, urbanisation & construction (tourism), charcoal (in mangrove area)



Annex 1 / figure 2: Deforestation in Sao Tomé 2009-2012/13 (Source: GeoVille, 2013)

There are two types of threats in this section with very distinct stakeholder groups and response mechanisms, which are discussed separately in the following.

Forest habitat loss from large-scale agricultural developments

This is the **second larger-scale threat that could cause transformative, devastating impacts on key ecosystems if not addressed and managed properly**. As for the threat from large infrastructure developments, it can result from singular, discrete large-scale land conversions endorsed or promoted by government decision-makers.

The above deforestation map underlines the impact of one large-scale agricultural development: the clearing between 2009-2012/2013 of 2,100 ha of valuable forests in southern São Tomé for oil palm plantations, as part of a 4,917-ha concession the government of STP granted to AgriPalma (a company of the Luxembourgian/Belgian Société Financière

des Caoutchoucs, Socfin)<sup>10</sup>. In addition to the direct loss of suitable habitat by forest clearance, the plantation causes forest fragmentation and disturbance; and roads for improving transportation between concession areas split potential home range/suitable habitat patches for the São Tomé Fiscal and São Tomé Grosbeak. The remaining c 2,800 ha of the concession were not converted after opposition led by civil society, and it appears will now be returned to the government. The island's regional government halted oil palm expansion granted by the central government on Príncipe.

A similar development occurred in the cocoa sector. The company SATOCAO, STP's largest cocoa trader/exporter, was granted a c. 2,500 ha-large concession on São Tomé for a period of 25 years that included large areas of forest to be newly cleared for planting with cocoa. 275 ha were converted. The concession is currently under review due to important overlaps with the PNOST.

#### Forest, mangrove and savanna habitat loss for small-holder agriculture

This is a growing threat linked primarily to the growth of the human population including in rural areas. The impacts are more gradual and dispersed than in the case of land conversions by large agricultural concessions, but also more difficult to manage due to the large number of stakeholders involved and their fragmentation.

Small-holder farming leading to deforestation is particularly linked to crops like pepper and vanilla and horticulture at mid-altitude in the centre of São Tomé which offers suitable climatic conditions, grown largely after tree cover has been removed. Low-intensity agroforestry areas surrounding the PNOST are increasingly being cleared in the more accessible areas of the island, such as in the centre around Bom Sucesso. Such clearance is encouraged by investment in transport infrastructure and increased market opportunities for agricultural produce.

An additional pressure is forest conversion by farmers planting crops in agroforestry systems; this is less visible on satellite imagery or deforestation maps because some tree cover is retained but in fact affects a far larger area that has not been adequately quantified recently.

The mangrove habitats of STP are threatened by historical conversion to arable land, overharvesting for firewood and charcoal-making.

On a smaller scale, the (anthropogenic) savanna area in northern ST has seen forest loss and habitat degradation caused by slash-and burn practices (widely used in this part of the island for maize and sugarcane production by family farming), compounded by charcoal-production and infrastructure development.

#### **B1.3 Loss of sea turtle nesting beaches from sand mining**

The extraction of sand and stones from beaches for construction purposes causes destruction of these fragile habitats that hold potential for tourism and are critical habitat for turtle breeding (Polovina et al. 2004, Programa Tatô 2019). The resulting coastal erosion is also heavily affecting São Tomé leading to the destruction of coastal infrastructures such as roads and promenades.

#### **B1.4 Habitat loss from urbanisation and related infrastructure, especially in coastal and rural areas**

Urbanisation in rural and coastal areas and related infrastructure is spreading in an uncontrolled and unplanned manner, especially on São Tomé, causing both direct and indirect impacts on natural ecosystems, affecting forests, coastal habitats including mangroves, and beaches that may be sea turtle nesting beaches. This is a result of the growth of STP's human population, but also of weaknesses in land-use planning, surveillance and law enforcement.

### **B2 Natural resource use and over-exploitation**

#### **B2.1 Forest degradation from unsustainable and illegal selective logging**

This is the **third major threat that could cause transformative impacts on key ecosystems if not addressed and managed properly**. Selective logging to source timber for construction purposes (primarily houses given that 80% of houses in STP are made of wood; and for furniture and boats; there are no timber exports) and wood to produce charcoal for local use or sale are the primary two drivers of forest degradation in STP – although there are important

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<sup>10</sup> <https://www.socfin.com/en/investors/agripalma>

differences between the two islands. In some areas forest degradation has advanced sufficiently that it could be classified under deforestation.

Forest degradation is hard to capture by remote sensing and there is only limited quantitative data, the latest forest inventory dating back to 1999. However, enough information is available to indicate that this threat must be urgently managed.

The timber and charcoal value chains are different and impact forests in different manners and places. Stakeholders and especially the response mechanisms differ between the two. These two value chains and drivers of forest degradation are therefore described separately in the following.

#### Logging to source timber for construction purposes

Between 1989 and 1999, the interval between the two existing national forest inventories, there was an increase in the total volume of all species (which can be explained by secondary forest growth) yet a decrease in the volume of commercial species by c. 196,000 m<sup>3</sup> (i.e. an average annual decrease of about 19,600 m<sup>3</sup>) resulting from the increase in consumption of sawn timber and its derivatives. Although these data are outdated, this illustrates the trend regarding timber needs in STP. According to the later study of Espírito & al. (2015), the pressure on forest resources had increased further since, noting a further sharp decrease in the commercial volume of standing timber.

Turning to the situation today, in Príncipe the general consensus is that logging for timber is mostly compliant with state regulations and pressure is not yet critical, though impact is not properly quantified. By contrast, in São Tomé most of these activities (80-95%) are unlicensed and illegal, and exploitation is poorly controlled and unsustainable.

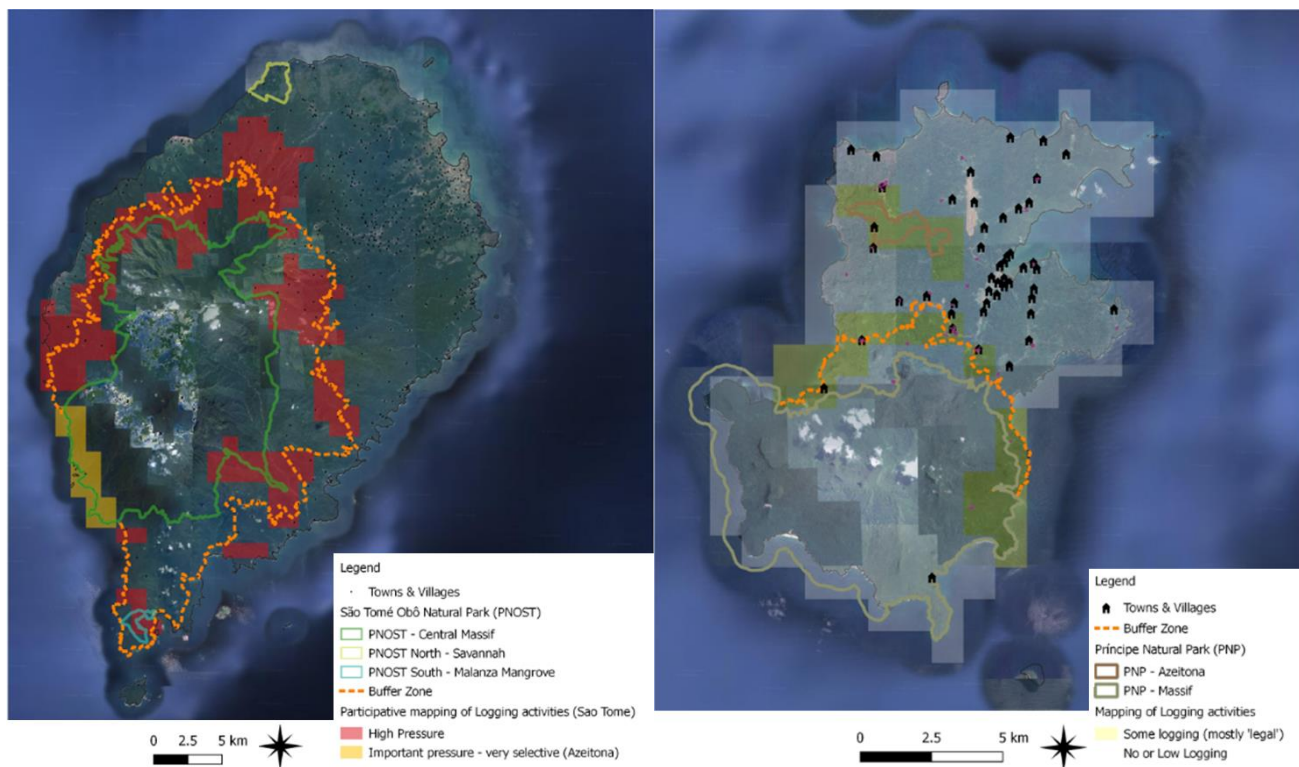
There is a clear trend for a sharp decrease in standing timber commercial volume along the gradient of land-use intensity. This trend holds for higher quality timber species, with almost no volume existing outside native and secondary forests. In shade plantation the small volume of timber is almost entirely composed by low quality timber and in non-forested lands barely any timber persists. Also, shifts in the market to lower quality timbers suggest that the stocks of higher quality timber are becoming depleted, with households and traders agreeing that the situation is deteriorating (do Espírito & al., 2015).

The number of tree species being targeted for timber (c. 17) is limited if compared to the overall species richness of the country's forests (350+ spp.). However, the shift to lower quality timber is prone to widen the spectrum of species targeted.

Species like *Azeitona* and *Viro* are key to the health of the ecosystem and provide important ecosystem services (do Espírito, 2015). In addition, several species of conservation concern are affected, namely "pau-vermelho" *Staudtia pterocarpa*, which is endemic to São Tomé and classified as Vulnerable by the IUCN Red List, and *Carapa gogo* and *Santiria* sp., which are endemic to São Tomé and to STP, respectively, but have not yet been formally described, and as such have not yet been assessed by IUCN. It is also noteworthy that *Milicia excelsa*, the species that is by far the most used, is classified as Nearly Threatened, and that the also often used *Cedrela odorata* is Vulnerable, despite having been introduced to São Tomé.

The following maps show the current prevalence of timber logging on the islands of São Tomé and Príncipe. One can see how activities are concentrated in and around the buffer zones but also extend into the actual NPs. This is also indication that there are no valuable resources left outside the NP and BZ in other parts of the island. On São Tomé, logging begins to impact areas inside the PNOST, particularly around the northern border where the forest is accessible and in better condition.

Logging largely relies on access by roads reachable from the forest via trails, however also affects the SW-quarter of ST (where there is no coastal road) where timber is brought to the coast to be transported by boat.



Annex 1 / figure 3: Heatmap of timber logging activities in Sao Tomé and Príncipe

### Logging for charcoal-making

Logging for charcoal-making is the other key driver of forest degradation in STP. According to the 2012 census of the National Institute of Statistics (INE, 2012), around 57.6% of the population uses firewood and/or charcoal as an energy source. Charcoal is used extensively in urban areas that have less access to firewood, for grilling fish. FAO provided an estimate of 8 tons of charcoal used in STP per year, but this number appears to be very low.

Extraction is selective in initial stages when resources are abundant: the native African Oil Bean (Moandi) *Pentaclethra macrophylla* is the most sought-after species for the quality of its charcoal. It is still being targeted in Príncipe even though resources are declining. However, once resources decline, charcoal-makers turn to other lower-quality species, such as in São Tomé where the preferred Moandi has disappeared from the charcoal market. Charcoal-making can clear out any woody vegetation. In that sense, charcoal-making is more widespread than timber logging, it can be done in agricultural plots where no timber species remain, and it can have wider systemic impacts than timber logging leading to wholesale deforestation. Charcoal-making is also prone to be more opportunistic than timber logging.

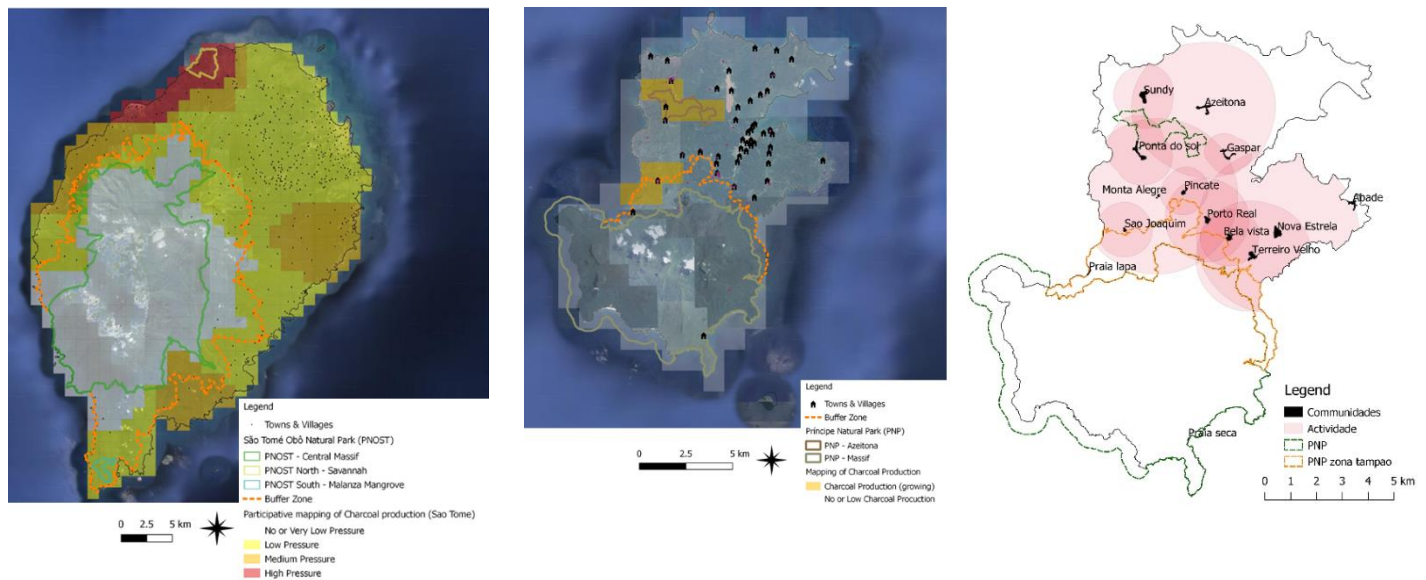
Mangrove habitats are also lost due to overharvesting for charcoal-making and firewood.

The following maps show the current prevalence of charcoal-making on the islands of São Tomé and Príncipe. One can see how activities on ST are spread across the island except for the NPs core area – in shade plantations, secondary forests and high-quality forests. However, there are hotspots in the north and south where pressure on forest areas next to the NP has become severe and where exploitation approaches the NP core area.

It is estimated that there are around 500 dedicated charcoal-makers on São Tomé, including around 300 in the northwestern district of Lobata. This does not include the much larger number of occasional and opportunistic charcoal-makers which include farmers clearing their fields anywhere on the island. DFB estimated the total number of charcoal-makers to 5000.

On Príncipe, according to the Regional Forestry Department, there are 100 active charcoal workers on the island, concentrated in the communities of S. Joaquim and around the Azeitona forest (Gaspar and Azeitona). However, this will include also more opportunistic charcoal-makers, because the demand and pressure from charcoal-making is much smaller in Príncipe.

There are contradictory views on whether charcoal is (illegally) exported from Príncipe to São Tomé.



Annex 1 / figure 4: Heatmap of charcoal production in São Tomé (left) and Príncipe.

On the right, Fundação Príncipe 2019: Circles (red) extend from each community based on the maximum reported distance that community members travel for each activity, as obtained from the group and/or individual questionnaires. Circles are semi-opaque; such that overlapping regions appear darker – i.e. increasingly dark regions indicate that multiple communities may be using the same area.

## B2.2 Unsustainable exploitation of NTFP

NTFPs are important resources for local communities. In STP many NTFPs are part of the diet, others are used for income generation and for prevention and treatment of disease and hold pharmaceutical value; some are ornamental, and others are used for handicrafts. The exploitation of NTFP contributes to the well-being and poverty reduction, especially in rural areas, and especially for women who are key stakeholders in many NTFP value chains. Another aspect to emphasize is the physical and economic accessibility, even for people who do not have agricultural land or regular incomes (Biloso, 2008). However, there is a lack of studies on their real importance in the Santomean economy.

NTFP are a typical sustainable livelihood intervention aimed at diversifying local revenue sources without harming forests. However, in many cases NTFP are an open-access resource – when exploitation quickly becomes unsustainable and contributes to the increasing pressure on forests (Carvalho, 2013). NTFP collection also leads to unintended indirect impacts, most notably the spread of IAS plants and disturbance of habitats critical for sensitive birds during the breeding season.

The main NTFPs exploited in STP are the following:

- African Giant Land Snail and São Tomé and Príncipe Giant Land Snail; see following section.
- Palm Wine, the third most consumed drink in São Tomé (and Príncipe). Directly harvested from palm trees, it is the main beverage in local communities, thus creating, apart from the environmental threat, serious social issues. Agricultural growth is limited around palm trees; it is for this reason that few are present on agricultural plots and most of the trees exploited are in secondary forest, either outside the conservation areas or inside. The daily harvest and maintenance of the palm trees, with regeneration being facilitated by the collectors, plays an important role in the expansion of palm trees inside the forest, and the increasing invasion into native forests.
- Wild and farmed honey, a product that is particularly attractive since there is both national and international demand. Collection of wild honey remains a direct threat to the Park causing a significant reduction of wild beehives. In Príncipe this was mitigated with the development of the bee project, started under a GEF5-funded Biodiversity project and extended and monitored through the Fundação Príncipe led CEPF-funded project; and continues to yield impact post project. Traditional honey gathering can be quite destructive and involved cutting down the tree to reach the hive, and burning others to chase away the bees. The training provided by the bee project has reduced (but not eliminated) this practice by providing equipment, training, locals and partnership with HBD's roça paciência to secure pots for the production and sell of honey.

- African Oil Bean *Pentaclethra macrophylla*, of which the seeds are collected for export especially to Nigeria, with the traded volume having grown so much that most seeds are collected from the forest soil with regeneration levels now seriously low. The timber is also highly valued for traditional charcoal;
- African Cardamom *Aframomum danielli*, mainly for the preparation of one of the typical dishes of São Tomé and Príncipe, the 'calulu';
- Kola nuts *Cola acuminata*, a powerful stimulant locally consumed with palm wine, with export market to Nigeria and Angola;
- Ashanti pepper *Piper guineense*, locally used for cuisine and potential export product; a pilot initiative in Príncipe island, led by the NGO Oikos, in the framework of the ECOFAC6 project, aims to develop the value chain of wild pepper, with potential buyers already identified;
- African fan palm *Borassus aethiopicum*, for use in construction and handicrafts;
- African breadfruit *Treculia africana*, an edible traditional fruit (seeds are of particular interest because of their high nutritional value);
- Medicinal and aromatic plants, most based on traditional knowledge, some of which are used excessively.

### B2.3 Wildlife hunting and collection

Decree-Law no. 1/2016 defines hunting as "Any action aimed at pursuing, capturing or killing a wild animal, as well as the collection of eggs and the destruction of nests of birds and reptiles". Hunting activities are carried out all year long with no respect to the natural cycles or sustainable harvest levels.

Hunting on the island of São Tomé is carried out with three different purposes (Carvalho, 2015):

- Subsistence hunting – predominantly in rural areas and targeting mainly feral pigs;
- Commercial hunting – practiced mainly by urban hunters who sell the product in bars, restaurants or to private consumers, targeting birds, monkeys and bats;
- Sport hunting – practiced by members of STP's higher socio-economic classes, usually during holidays or weekends and targeting mainly birds, but also monkeys and bats.

Rural populations in STP rely on introduced wild and feral animals for protein. Feral pigs and the introduced Mona Monkey *Cercopithecus mona* are the main vertebrate source of wild meat consumed in São Tomé and Príncipe. These non-native species are widely hunted and represent a source of protein and revenue generation to rural populations. The second-most hunted vertebrate group are bats, which are widely consumed by rural populations, particularly the Straw-coloured Fruit Bat *Eidolon helvum* NT and the Egyptian Fruit Bat *Rousettus aegyptiacus*.

Hunting is a major threat for the Dwarf Ibis CR and São Tomé Olive-pigeon EN, given their low population sizes and limited range. Other species of birds hunted in great numbers and consumed as delicacies include the São Tomé Bronze-naped Pigeon *Columba malherbii* NT, the São Tomé Green-pigeon *Treron sanctithomae* EN, the Príncipe African Green-pigeon *Treron calvus* ssp. *virescens*, the Lemon Dove *Aplopelia larvata* ssp. *simplex/principalis* and the Laughing Dove *Spilopelia senegalensis* LC.

Uncontrolled collection for food of the endemic Obô Giant Land Snail *Archachatina bicarinata* VU is a significant threat to this endemic species, which is considered a conservation priority. Managing the threat is difficult because it is similar to the West African Giant Land Snail *Archachatina marginata*, an invasive pest species that was introduced to the islands 30 years ago and has become the third most important source of protein in STP (after fish & feral pig meat) – a preliminary study found that it accounted for 46% of all protein consumed in one community (Carvalho et al., 2015). Research, awareness activities and concrete conservation action are underway to protect the species, mainly through CEPF funding.<sup>11</sup>

Also, a growing and undocumented threat is the uncontrolled collection of insects and the informal and illegal market of insects.

### B2.4 Threats related to increasing disturbance from human presence in the forest

Studies conducted by Olmos & Tursshat (2007 and 2010) and Gascoigne in litt. (2000) mention the existence of considerable human movement within forests, including within protected areas, by hunters, loggers, wine ingredient

<sup>11</sup> <https://www.cepf.net/grants/grantee-projects/save-sao-tome-giant-snail-learning-and-teaching-preserve>



collectors, land snail collectors, healers collecting traditional medicines, etc. In addition, as infrastructure improvements proceed, forest areas become more accessible.

### **B3 Pollution**

Pollution by chemical pesticides is a threat especially for the freshwater biodiversity in the country's rivers, creeks and streams. These stem from discarded pesticide-impregnated anti-malaria mosquito nets, and from agricultural (especially horticultural) fields where farmers apply pesticides with minimal controls in place. There are growing calls for a reduction or ban in pesticide use given the effects on human health. There has been a decrease in the fish species *Eleotris vittata* and the freshwater shrimp species *Sicydium bustamantei*, which play an important role in food security of rural communities.

### **B4 Invasive Alien Species (IAS)**

While there is no evidence that IAS have had any systemic impact on the ecology and diversity of STP's ecosystems or led to the extinction of species like on other SIDS, they are a growing background concern.

In terms of animal IAS, feral cats *Felis silvestris*, the Black Rat *Rattus rattus*, the African Civet *Civettictis civetta* and the Least Weasel *Mustela nivalis* are present. While civets and weasels have been observed to prefer plantations, rats and civets have both colonized native forest or certainly the edges of it and are very likely to have had a significant impact on birds and other vertebrate species. Predation of adults and juveniles and eggs from bird nests by IAS could be a potential threat for all endangered species, and in particular the Dwarf Ibis.

Introduced feral pigs affect the forest floor by churning up the undergrowth, which reduces tree regeneration. This could also have a positive impact for the Ibis as it creates potentially improved feeding habitat.

The Mona Monkey *Cercopithecus mona*, an exotic species but not considered invasive, impacts the forest vegetation through seed dispersal, including of non-native plants.

The West African Giant Land Snail *Archachatina marginata*, introduced 30 years ago, is fully established in the coastal areas and secondary forests of São Tomé and Príncipe. The species has started to expand into areas of native forest, which strongly correlates with the decrease of the endemic Obô Giant Land Snail *Archachatina bicarinata* VU (Conservation Status currently being reviewed), and will have impacts also on other fauna and flora. Both species are collected for food, see above.

The expansion of invasive and exotic plants into native and secondary forests is a further concern, especially in São Tomé which has been exposed to more trade, inhabitants and agricultural transformation. The expansion of IAS plants causes increasingly dense vegetation in the forest understory reducing, for instance, the suitability of forest habitat for the critically endangered Dwarf Ibis and the São Tomé Fiscal. The Missouri Botanical Garden (2010) identified the following species of concern:

- Common bamboo *Bambusa vulgaris* – originally from China and recognized as invasive in New Zealand, the Cooks Islands, Fiji Islands, Reunion Island and Jamaica, this perennial herbaceous tree penetrates the forest by spreading along streams through reproduction from the rhizome, which is particularly effective. It removes native plants by forming a very dense canopy. It has been reported in the PNOST.
- West Indian Raspberry *Rubus rosifolius* – native to Australia and Asia and invasive in Hawaii, French Polynesia and New Caledonia., this thorny shrub is appreciated for its edible berries but forms dense groves that compete with native plants. It was introduced into the archipelago from 1906 and is currently very abundant in secondary bushes, plantations and along roads. It can occur in native forests if the vegetation is open. There is therefore a risk that birds that consume its berries will carry the seeds to the other parts of the forest where it may find a suitable habitat for its expansion. In Tahiti, this species can be observed up to 2200 m above sea level. It is reported in the PNOST.
- Lantana *Lantana camara* – native to Central America and northern areas of Latin America, and introduced to Africa, China, New Caledonia, India, Australia, Dominican Republic, etc. Lantana thrives in disturbed areas and is found in agricultural areas, in coastal areas, in natural and planted forests, in ruderal areas and in wetlands. Easily spread by birds that feed on its berries, it is one of the 100 most problematic invasive species in the world. Its impacts are multiple: form dense populations that reduce biodiversity, alter the fire regime, reduce

the productivity of agricultural areas, increase the risk of erosion and poison livestock. It is reported in the north of São Tomé.

- Herbst's Bloodleaf *Iresine herbstii* – this perennial herbaceous plant native to Brazil does not currently have invasive status. In São Tomé it can be observed along the paths of the PNOT and its rapid progress is worrying because it forms very dense populations and competes with the giant Begonia of São Tomé, the emblem of the PNOT. In Brazil it has been found up to 2500 m above sea level. If it continues to progress in the Park, there is a risk that when it reaches more open environments, conducive to its development, there will be an explosion of its distribution.
- Mexican Sunflower *Tithonia diversifolia* – native to Central America and invasive in the Pacific Islands (Hawaii, Cook Islands, Galapagos, Fiji Islands, French Polynesia, New Caledonia), Australia, Reunion Island, Southwest China and Nigeria. This stoloniferous perennial herbaceous plant standing around 2 to 3 m high, is used in São Tomé as a hedge between crops. Its absence from pre-bimillennial inventories suggests that its introduction is very recent. Its highly invasive nature in other areas, its rapid clonal reproduction and high production of light seeds, its ability to grow at high elevations (in China it has been observed up to 2000 m), its ability to colonize open forest areas and its ability to form dense stands that prevent the growth of young native plants are of concern to scientists, as it is grown in the buffer zone.

## **B5 Climate change**

Like many other small island states, São Tomé and Príncipe is highly exposed and vulnerable to the impacts of climate change, such as sea-level rise and extreme weather events. Water resources, infrastructure, health, food security and coastal protection will be affected. The majority of livelihoods are highly dependent on limited natural resources and climate-sensitive activities, namely agriculture and forestry (crop production, shade plantation, livestock, forest resources) and fisheries. Higher and increasingly competing demands for food, energy, and space are accelerating the degradation of natural resources and ecosystems, which reduces their resilience to climate change. This situation increases the vulnerability of small-holders and creates a vicious cycle of low adaptive capacity, poverty, further degradation and hunger.

The identified threats to ecosystems from climate change are:

- Accelerated erosion of soils due to the very rugged nature of the islands.
- Flooding and subsequent degradation of forest areas on flat relief, such as shade forests located in the plateaus.
- Increase of the extent of the savannah zone to the northeast of the island of São Tomé, which is already suffering from degradation due to indiscriminate tree and shrub harvesting to produce charcoal.
- Increasing trend of annual mean temperature values and decrease in rainfall.
- Loss of forest cover by landslides, as about 90 percent of forests are located on steep relief.
- Degradation of forest area in case of prolonged drought, especially shade forests and secondary forests.
- Proliferation of pests and diseases in forest ecosystems.
- Local extinction of animal and plant taxa (which will imply global extinction for endemic taxa).
- Loss of plant and animal (insect) biomass.
- Reduction of soil water content, especially in black and brown clays and savannah soils that are already exposed to water shortage.
- Sea-level rise & extreme events, loss of sea turtle nesting beaches, estuaries and mangroves
- Changing hydrology and coastal erosion, increasing with forest degradation and the illegal/uncontrolled felling of trees.

There is at least anecdotal evidence that weather patterns have started to change, with temperatures rising and shorter rainy seasons leading to reduced water flows in mountain streams. However, there is no evidence to date of any changes in the ecological communities that could be linked to climate change.

The biggest national challenge is to integrate climate change into the national planning process and to prepare rapid and effective responses with the affected socio-economic sectors. Regarding the forest sector, there is consensus at the level of plans and strategies for the development and sustainable management of forests and agroforestry ecosystems by 2030. However, experiments with species that adapt to changing soil and climate conditions should be encouraged.

## Annex 2 - HIGH CONSERVATION VALUE FORESTS / AREAS

### INTRODUCTION

An area designated based on High Conservation Values (HCV) has biological, ecological, social or cultural values that are considered exceptionally significant at national, regional or global level. These areas need to be appropriately managed to maintain or enhance the identified values.

The High Conservation Value concept was originally developed by the Forest Stewardship Council (FSC) in 1999 for use in forest management certification. In 2005 the HCV Resource Network was established, and the scope expanded. Today it is a fundamental principle of sustainability standards for palm oil, soy, sugar, biofuels, and carbon, and is widely used for landscape mapping, conservation and planning and protection of natural resources. In practice, many HCV areas are managed by companies or communities outside protected area networks.

HCV management can range from complete protection to extractive uses, such as selective logging or harvesting of natural products. Any extractive use needs to be managed according to an agreed standard, and monitored for any negative effects. The HCV cannot be converted to other land uses that compromise classification as HCV. Legal recognition and protection are not basic criteria for the identification of HCV. The criteria for identifying High Conservation Value areas do not guarantee the protection of the identified areas.

However, in the context of São Tomé there are adequate procedures for the formal recognition of HCV areas, including management and monitoring aspects, participating in the creation of a land use gradient surrounding the Parks (in the respective Buffer Zones and beyond), responding to the fundamental environmental need for the ecological integrity of the island. It is expected, therefore, to promote effective recognition and conservation of the HCV areas in Sao Tomé and Príncipe, through internationally benchmarked innovative partnership models.

### HCV TRIGGERS IN SÃO TOMÉ AND PRÍNCIPE

The islands of São Tomé and Príncipe have several forests that fit the criteria of High Conservation Value, being of global relevance to biodiversity. Most of these forests are in the São Tomé Obô Natural Park (PNOT) and Príncipe Natural Park (PNP) and their respective buffer zones (UNEP-WCMC 2019). These include HCV linked to species diversity (HCV1), to landscape-level ecosystems and mosaics (HCV2), to ecosystems and habitats (HCV3), to ecosystem services (HCV4), community needs (HCV5) and cultural value (HCV6) (Brown et al. 2013).

#### HCV1 – species diversity

In terms of HCV1, São Tomé and Príncipe holds globally significant concentrations of endemic and threatened species, many of which occur in natural patterns of distribution and abundance:

- Sao Tomé and Príncipe holds several hundreds of endemic fauna and flora species, most of which are still being described. Some of these are shared with other islands in the Gulf of Guinea, but most are restricted to Sao Tomé and Príncipe. In total, STP hosts 59 threatened fauna and flora species, including 33 Vulnerable (VU), 22 Endangered (EN) and four Critically Endangered (CR) species (IUCN, 2019<sup>12</sup>).
- Most of the endemic birds are found in the forests, and four of the endemic bird species listed as Critically Endangered in the 2019 International Union for the Conservation of Nature (IUCN) Red List: Dwarf Ibis *Bostrychia bocagei*, Newton's Fiscal *Lanius newtoni*, São Tomé Grosbeak *Crithagra concolor* and Príncipe Thrush *Turdus xanthorhynchus* (IUCN, 2019).
- The list of endemic plants of the archipelago contains at least 148 endemic taxa, of which 123 exist in São Tomé and 50 in Príncipe (RDSTP, 2014) and new species are still being discovered today on both island. Since 2016, on Príncipe Island, a project aiming at describing the tree diversity is ongoing (Global Tree Campaign/GTC Phase 2, activity report, 2018) and a 2019 CEPF<sup>13</sup> funded project (led by the Missouri Botanical Garden) is currently extending the flora study to both islands to improve taxonomy and evaluate its conservation status (for the IUCN red list).

<sup>12</sup> <https://www.iucnredlist.org/>

<sup>13</sup> <https://www.cepf.net/>

- The Príncipe Island region holds most breeding seabirds of the tropical eastern Atlantic Ocean (Valle et al. 2016). The seabird colonies of the Tinhosas islands, south-west of Príncipe, are the largest in the Gulf of Guinea with an estimated 300000 birds, including sooty terns *Onychoprion fuscatus*, brown boobies, black noddies *Anous minutus* and Brown Noddies *Anous stolidus* (Valle & al., 2016); Native terrestrial vertebrates of STP includes 4 endemic bats, 1 endemic shrew, 9 endemic reptiles and 8 endemic amphibians.
- 7 species of snakes are present in STP and all are endemic (including 2 in Príncipe island); and 6 endemic species of mollusc new to science have been discovered in Príncipe island in 2019 (Fundação Príncipe, 2019).
- It is also important to note that STP waters and beaches, including ones in the Parks and their buffer zones, host four species of sea turtles, all VU to CR, who use the beaches for nesting (including the CR hawksbill sea turtle *Eretmochelys imbricata*, the EN green sea turtle *Chelonia mydas*, and the VU leatherback *Dermochelys coriacea* and olive ridley sea turtles *Lepidochelys olivacea*).
- STP is part of the Guinean Forests of West Africa biodiversity hotspot (Myers et al. 2000). STP has been recognized as part of a Centre of Plant Diversity (WWF & IUCN 1994-7). It holds two Alliance for Zero Extinction sites<sup>14</sup> (AZE): the São Tomé Uplands, covering 4,839 ha triggered by the Endangered São Tomé shrew *Crocidura thomensis* and São Tomé giant treefrog *Hyperolius thomensis*, and the São Tomé lowlands, covering 21,832 ha triggered by the Critically Endangered Dwarf Olive Ibis, São Tomé fiscal and São Tomé grosbeak (Alliance for Zero Extinction, 2019). STP holds five Important Bird Areas<sup>15</sup> (IBA), 3 in Sao Tomé (lowland forest, mountain and mist forest, and northern savannahs), 1 in Príncipe (southern forest) and 1 covers Tinhosas islands (Christy, 2001). The set of conservation priority areas described above led to the identification of 7 Key Biodiversity Areas<sup>16</sup> (KBA), 5 in Sao Tomé and 2 in Príncipe; largely overlapping with the IBA. However, following the KBA protocols for identification, a review is needed (BirdLife International, 2019). STP is an Endemic Bird Area of Critical Priority (Stattersfield & al, 1998; BirdLife International, 2019).
- Worldwide, the São Tomé and Príncipe Natural Parks, are considered the 32<sup>nd</sup> most important protected areas for the conservation of mammals, birds and amphibians, the 17<sup>th</sup> if only threatened species are accounted for, and the 2<sup>nd</sup> ex aequo for the conservation of threatened bird species (Saout et al. 2013).

#### HCV2 – landscape-level ecosystems and mosaics

In terms of HCV2, the focal area, which includes the park and buffer zone does not reach the 500 km<sup>2</sup> threshold, but São Tomé and Príncipe being islands means that most naturally occurring species have adapted and are constrained to smaller areas than species occurring in the continent. The São Tomé, Príncipe and Annobón moist lowland forests (AT0127) are part of the afro-tropical ecoregion category (WWF)<sup>17</sup>, status vulnerable, and have been identified as the 3<sup>rd</sup> most important ecoregion for the conservation of forest-dependent birds worldwide (Buchanan et al., 2011); The islands support viable populations of naturally occurring species, and the focal areas hold relatively undisturbed ecosystems that support most endemic and threatened species, as well as most environmental values of the islands. Despite its small size, both islands are made of a mosaic of habitats, including lowland forest which are most similar to the continental forest, mountain and mist forest that are probably the most intact due to their uneasy access, and coastal formations (including savannahs in Sao Tomé and mangroves in both islands). Despite not being pristine, the focal areas are well preserved and maintains most naturally occurring species and ecological functions. Very few terrestrial species are thought to have been extirpated from São Tomé and Príncipe. Furthermore, it holds one of the largest and best-preserved patches of forest in the Gulf of Guinea Islands, including some of the most charismatic species of this biome, such as the Dwarf Olive Ibis and the Príncipe Thrush (BirdLife, 2019). The country is densely populated (estimated at 204,454 inhabitants, source: INE), but the rugged terrain ensures that most of the focal areas are difficult to access.

#### HCV3 – ecosystems and habitats

In terms of HCV3, São Tomé and Príncipe present, as stated above, a wide range of ecologically important ecosystems (mangroves, savannahs, lowland and mist forests, more specific ecosystems such as riparian, coastal, etc.) over a limited area. These ecosystems are of global and local rarity, as recognised by WWF through the map of ecoregions. The focus area is the key habitat for most endemic and threatened species occurring in São Tomé (Jones et al. 1991)

<sup>14</sup> <https://zeroextinction.org/>

<sup>15</sup> <http://datazone.birdlife.org/>

<sup>16</sup> [www.keybiodiversityareas.org/](http://www.keybiodiversityareas.org/)

<sup>17</sup> <https://www.worldwildlife.org/ecoregions/at0127>

and Príncipe (Fundação Príncipe, 2019). Ecological and evolutionary refuges are predominant in São Tomé and Príncipe, including mountains and the role of the oceans as climate buffers. The extent of São Tomé's native forest ecosystems is greatly reduced, when compared to the original extent, due to human activities. Large-scale agricultural development and land concessions, industrial developments such as quarries, fires, illegal logging and charcoal production, among other relevant threats, further threaten persistent native forest habitats. Lowland and coastal forests are probably the ecosystems that have suffered the greatest reduction in São Tomé and Príncipe over the period of colonization due to deforestation for sugar cane, coffee and cocoa production. Most of the extension of these two ecosystems has suffered continuous attacks and the likelihood of finding well-preserved areas is low. Most of the existing habitat is a result of the natural regeneration of the forest after the abandonment of plantations.

According to the PNST Management Plan, the last remaining areas of low altitude forests in Sao Tomé are concentrated around Maria Fernandes, Iô Grande, Angolares, Pico Cão Grande, Caué, Quija, Mussacavu and São Miguel, especially around the southeast limit of the Park. Regarding the dry forest, this ecosystem occupies the border regions of Guadalupe, including the banks of the rivers Água Castelo, Água Guadalupe and Rio do Ouro, in areas with rainfall between 1,000 and 1,500 mm per year and a marked dry period. Some marginal areas of this vegetation typology are included in the northernmost component of the PNST (Albuquerque et al. 2015, 2008). According to the 2015-2017 Praia das Conchas Mangrove Management Plan (Loloum et al. 2015), currently under review with funding from CEPF (project led by Oikos), the protected area should be expanded by 450ha to include the entire area of dry forest and Praia Grande, Praia de Plancas and Mutamba. Additionally, the PNST Management Plan states that it is plausible that the most important areas with conservation value in the buffer zone are in the fourth northwest of the island, namely between the Praia das Conchas area and the northwest boundary of the central forest block of the PNST and that these are possibly the most threatened natural ecosystems and, at the same time, the most valuable sites for biodiversity conservation on the island of São Tomé. The smaller island of Príncipe was once entirely covered by forest, although less varied than Sao Tomé's was. While it also largely suffered from the expansion of human activities starting during the colonization era, the entire southern zone of the island is still covered by relatively well preserved low-land forests. Four types of vegetation were recognized and main drivers were the annual rainfall, the elevation and the degradation of the forest (GTC Phase 2, activity report, 2018). While the North part of the island is dryer and has only one forest type, mainly degraded, the South and the Center harbor three vegetation types, two of them being almost intact, the third one being an old secondary forest. The most important habitat for conservation is the lowland forest around Rio Porco, which constitutes an old forest, possessing a high biodiversity and being probably one of the last intact ecosystems in the Gulf of Guinea (FFI Conservation manager, pers. com.). The submontane forest around 600m at the Pico do Príncipe is also of importance since it holds a unique flora on a small surface, with many unidentified species. These two types of vegetation are unique mature forest, possessing many huge trees that allow bird breeding. The Príncipe Natural Park, covering the southern third of the island, protects key habitats where most endemics are restricted, in particular the endemic and endangered Príncipe Thrush depends on a limited area of 40km<sup>2</sup> and the Príncipe giant land snails an area of 46km<sup>2</sup> (Fundação Príncipe, 2019). The newly discovered and endemic scoops owl is also restricted to the PNP area. The PNP management plan includes a buffer zone of secondary forests and a minority of shade plantations, covering an area of around 1157ha bordering the PNP – not gazette as such, and since the island recognition by UNESCO as a biosphere reserve, the ecological transition zone / buffer zone is being assimilated to the entire Príncipe landscape These areas have been less studied but they include potentially important coastal and mangrove habitat (COBIO-NET project, 2018-21<sup>18</sup>).

#### HCV4 – ecosystem services

In terms of HCV4, ecosystem services are the benefits people obtain from ecosystems, including provisioning services such as food and water; regulating services such as regulation of floods, drought, water purification, climate, land degradation, and disease; supporting services such as soil formation, nutrient cycling, primary production and genetic resources; and cultural services such as recreational, spiritual, religious and other nonmaterial benefits (IPBES, 2018).

In practice, many HCV National Interpretations have used three main headings under HCV4: areas critical to water catchments, areas critical to erosion control (vulnerable soils and slopes), and areas providing barriers to destructive fire (Brown et al. 2013).

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<sup>18</sup> [www.mare-centre.pt/en/proj/cobio-net](http://www.mare-centre.pt/en/proj/cobio-net)

STP ecosystems are rich, diverse, and capable of providing multiple services and resources. The main natural risks in STP are related to landslides, floods and coastal erosion, typologies of risks that generally occur associated. The geomorphologic characteristics of some areas, with strong slopes and high instability, allied to dominant meteorological conditions, favour sliding-type mass movements, falls of blocks and flows of earth or mud. The frequent and intense rainfall facilitates the saturation of the soils and products that cover the rocky substrate, and the lubrication of rock mass near the surface, favouring the mobilization of materials and the fall of blocks. This type of risk is especially present in the Northern and Central regions, already with some history of landslides (Carvalho et al. 2015).

Ecosystem services are also threatened throughout the national territory because of human activities, including land conversion to agriculture (agro-industry, vegetables production) or macro-projects (hydroelectric energy, dams projects), forest degradation (logging, charcoal making), exploitation of wildlife (hunting) and other natural resources (Non-Timber Forest product), erosion (in-land or coastal, natural or due to unregulated felling of trees, sand extraction, etc.) (Albuquerque, 2015), exacerbated by climate change and drought.

More specifically, the coastal zone in São Tomé and Príncipe is the economic area par excellence and a vulnerable area per se, where almost all of the economic infrastructure, including the social habitat, is concentrated. The coastal zone is subject to multiple anthropogenic aggressions (for instance extraction of sand and rolled stones for construction), consequently causing the destruction of beaches of great tourist potential or that represent turtle breeding areas (Polovina et al., 2004, Programa Tatô, 2019). In Príncipe, the coastal area is occupied for a great portion by luxury hotel concessions (HBD Príncipe, Belo Monte, etc.), which to some extent tried maintaining a green tourism label for their clients, therefore limiting their impact on biodiversity. However, the expansion of those resorts and the potential acquisition of more concessions from less environmentally friendly companies, in a very small island where the number of beaches is limited, is an important threat to the remaining preserved beaches. Communities are occupying most of the remaining beaches and according to the Management Plan of the PNP, most of them should be monitored through awareness programs to limit their impact on the coastal biodiversity and incursions in the nearby forest (wood cutting to build canoa, unregulated fisheries, water contamination, etc.). Relevant beaches in the Buffer Zones should be protected with proven importance for endangered species conservation, as touristic attraction and to prevent coastal erosion. Mangroves are probably the most peculiar coastal ecosystem of São Tomé and Príncipe, a transition zone between rivers and the sea, which contains brackish water and serves as nurseries for different marine or coastal organisms, a key ecosystem to maintain fisheries activities. Additionally, they play an important role in protecting the coast and controlling coastal erosion (de Lima et al. 2016, Haroun et al. 2018). The country's largest mangroves are located near Praia das Conchas, Praia dos Tamarindos, Pantufo, Água-Izé and Malanza, which also have a critical role in maintaining the integrity of the islands territory (Jewell et al. 2009). In Príncipe Island, there are three main remnants of mangrove forests, Praia Salgada, Praia Caixão and Praia Grande, all of them outside the Príncipe Natural Park (Haroun et al. 2018). A previous plan developed for STP proposed the extension, with an additional 500ha, around the Malanza Mangrove Area in order to include the lowland forests around Cantagalo (North) and the sand beaches around Porto Alegre, for their importance for sea turtle breeding (South) (Jewell et al. 2009).

Finally, the country and by extension critical habitats, are vulnerable to climate change, with potential significant environmental and socio-economic impacts including an acceleration of habitat and biodiversity erosion and deep changes in the landscape dynamics (depending on climate scenarios: potential reduction of forest cover and expansion of savannahs through increased droughts, soil erosion and habitat loss through increased landslides, erosion of coastal habitat through increased sea level, and invasion of alien species – e.g. plants, insects (Carvalho & al. 2011). Water resources are also highly vulnerable to climate change, and watercourses and river basins quality and microbiomes will depend even more on adequate forest cover and appropriate agricultural/human sanitation practices (Bonfim, 2002; Carvalho et al. 2011).

#### HCV5 & HCV6 – local communities and culture

Both HCV5, sites and resources fundamental for satisfying the basic necessities of local communities, and HCV6, sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures, present interesting criterias and can be considered in some cases. However, these categories are secondary in the context of São Tomé

and Príncipe; as HCV 1-4 already cover most of the expectations for achieving the High Conservation Value forests designation expected outcome.

A preliminary analysis carried out in 2019 led to the preliminary identification of potential High Conservation Value areas in Sao Tomé, including 19 separate areas (BirdLife, 2019). Further synergies with the Associação Programa Tatô, sea turtle conservation program in Sao Tomé Island, suggested the inclusion of two additional sites: *Southwest of Ilhéu das Rolas* and *North Coast between Praia das Conchas and Diogo Nunes*. Additional studies taking place to assess Sao Tomé landscape against HCV5 & HCV6 criteria's, and to replicate identification for Príncipe Island. The current proposal, based primarily on an assessment of existing biodiversity values, is also being used as the basis to prepare further consultation and public discussion, informing and engaging relevant stakeholders, while weighing these values against socio-economic interests. The CEPF-funded project 'Characterization of the threatened flora of São Tomé & Príncipe' May 2019-December 2020 (extended to 2021) aims to identify threatened plant species using categories and criteria of IUCN, characterize their distribution and their habitat and the threats they are facing, and shall therefore feed the identification process – to be updated with flora data's by mid-2021.

#### **HCV PRELIMINARY IDENTIFICATION IN SÃO TOMÉ**

The above-mentioned preliminary analysis carried out led to the preliminary identification of potential High Conservation Value areas, which, for the time being, includes 21 separate areas. Eight of them are currently outside the PNOST buffer zone. The limits have also been proposed to be easily identified on the ground and to avoid overlap with agricultural concessions of familial agriculture.



Annex 2 / figure 1: Preliminary identification of potential High Conservation Value forests in São Tomé  
 São Tomé landscape (Google Earth imagery), Obô Natural Park (green line: central massif, red line: northern savannah area, blue line: Mangrove of Malanza), and HCV areas (white lines)



Annex 2 / table 1: List of terrestrial & coastal HCV areas pre-identified for the island of Sao Tomé

The “Priority” codes indicate whether the area is mostly included in the most commonly accepted buffer zone boundaries or not (O or I, respectively) and categorizes them according to the importance of the values it holds (1 – top; 2 – medium; 3 – low). Triggers is a list of the type of values that have been identified in each area: 1 – Species diversity (Endemic species – End –indicated, but only listed if they are data deficient (DD) or threatened: CR – Critically endangered; EN – Endangered; VU – Vulnerable – IUCN 2019); 2 – Landscape; 3 – Ecosystems and habitats; 4 – Ecosystem services. \* signals values identified during the field visits (Appendix). Other values were obtained from the bibliography (Mammals: Juste & Ibañez 1994; Rainho et al. 2010; de Lima et al. 2016. Birds: de Lima 2012; BirdLife International 2016; de Lima et al. 2016; Soares 2017. Herps: CAS 2019; Programa Tatô 2019. Plants: Joffroy 2000; BirdLife International 2016; Figueiredo et al. 2011. Giant land snail: Panisi 2017. Landscape and ecosystems: BirdLife International 2016; Soares 2017.)

Code	Name	Priority	(ha)	Triggers
A1	Praia de Plancas	O3	33.7	2 – Connectivity (northern exclave to core park area). 3 – Secondary dry forest, savanna, shade plantation and stream. Bat roost: <i>Eidolon helvum</i> *. 4 – Charcoal*; Agriculture* (cocoa, coconut and banana); Canoe building* ( <i>Ceiba pentandra</i> ); Silviculture* (palm wine, tamarinds); Hunting*; Water*; Timber ( <i>Milicia excelsa</i> ); Medicinal plants* ( <i>Rauvolfia vomitoria</i> , <i>Momordica charantia</i> ).
A2	Ribeira Funda	O1	110.3	1 – <i>Staudtia pterocarpa</i> (End&VU*); <i>Archachatina bicarinata</i> (End&VU*). 2 – Connectivity (northern exclave to core park). 3 – Native and secondary lowland dry forest, stream and cliffs. Bat roost: <i>Eidolon helvum</i> *. 4 – Timber* ( <i>Milicia excelsa</i> , <i>Cedrela odorata</i> , <i>Tetrorchidium didymostemon</i> , <i>Staudtia pterocarpa</i> ); Water*; Charcoal*; Hunting* ( <i>Eidolon helvum</i> , <i>Columba larvata</i> ); Medicinal plants* ( <i>Rauvolfia vomitoria</i> ).
B1	Ponta Furada	O2	254.9	1 – <i>Miniopterus newtoni</i> (End&DD); <i>Oriolus crassirostris</i> (End&VU*); <i>Treron sanctithomae</i> (End&EN); <i>Eretmochelys imbricata</i> (CR); <i>Polyscias quintasii</i> (End&EN*); <i>Pandanus thomensis</i> (End&VU*). 2 – Buffering. 3 – Secondary coastal rainforest, beaches and river. 4 – Timber* ( <i>Cedrela odorata</i> , <i>Tetrorchidium didymostemon</i> ); Water*; Hunting* ( <i>Cercopithecus mona</i> , <i>Columba malherbii</i> , <i>Treron sanctithomae</i> , <i>Eidolon helvum</i> ); Silviculture* (Palm wine); Ecotourism; Medicinal plants* ( <i>Rauvolfia vomitoria</i> , <i>Voacanga africana</i> ).
B2	Claudina	O3	143.0	2 – Buffering. 3 – Secondary lowland rainforest and river. 4 – Timber*; Water*; Hunting*; Silviculture* (Palm wine); Medicinal plants*.
B3	Morros de Bindá	I1	2165.6	1 – <i>Crocidura thomensis</i> (End&EN); <i>Miniopterus newtoni</i> (End&DD); <i>Bostrychia bocagei</i> (End&CR); <i>Lanius newtoni</i> (End&CR); <i>Crithagra concolor</i> (End&CR); <i>Motacilla bocagii</i> (End&VU); <i>Columba thomensis</i> (End&EN); <i>Dreptes thomensis</i> (End&VU); <i>Oriolus crassirostris</i> (End&VU); <i>Otus hartlaubi</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Staudtia pterocarpa</i> (End&VU); <i>Pandanus thomensis</i> (End&VU*); <i>Craterispermum montanum</i> (VU); <i>Archachatina bicarinata</i> (End&VU). 2 – Additionality and buffering. 3 – Native forest, secondary lowland rainforest, secondary coastal forest, rivers and peaks. 4 – Timber; Silviculture* (palm wine); Water*; Hunting* ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> , <i>Treron sanctithomae</i> ); Agriculture* (cocoa and banana); Ecotourism; Medicinal plants*.
C	Contador	I1	100.4	1 – <i>Miniopterus newtoni</i> (End&DD); <i>Panaspis africana</i> (End&VU). 2 – Additionality and buffering. 3 – Native forest, secondary lowland forest, cliffs and streams. 4 – Water*; Hunting.
D	Chamiço	I1	1498.8	1 – <i>Crocidura thomensis</i> (End&EN); <i>Crithagra concolor</i> (End&CR); <i>Columba thomensis</i> (End&EN); <i>Dreptes thomensis</i> (End&VU); <i>Oriolus crassirostris</i> (End&VU); <i>Otus hartlaubi</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Croton stellulifer</i> (End&VU); <i>Discoclaoxylon occidentale</i> (End&VU*); <i>Staudtia pterocarpa</i> (End&VU*); <i>Craterispermum montanum</i> (VU); <i>Pavetta monticola</i> (End&VU); <i>Archachatina bicarinata</i> (End&VU). 2 – Additionality, buffering and connectivity (northern exclave to core park). 3 – Native lowland and montane transitional forest, secondary lowland transitional forest and streams.

Code	Name	Priority	(ha)	Triggers
				4 – Timber; Water*; Hunting* ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> , <i>Treron sanctithomae</i> , <i>Columba thomensis</i> ); Agriculture* (coffee, banana, taro, pepper); Ecotourism; Medicinal plants* ( <i>Rauvolfia vomitoria</i> , <i>Syzygium guineense</i> ).
E	Zampalma	I1	846.4	1 – <i>Crocidura thomensis</i> (End&EN); <i>Miniopterus newtoni</i> (End&DD); <i>Myonycteris brachicephala</i> (End&EN); <i>Crithagra concolor</i> (End&CR); <i>Columba thomensis</i> (End&EN); <i>Dreptes thomensis</i> (End&VU); <i>Oriolus crassirostris</i> (End&VU); <i>Otus hartlaubi</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Hyperolius thomensis</i> (End&EN); <i>Panasasp africana</i> (End&VU); <i>Afrocarpus mannii</i> (End&VU); <i>Marsdenia exellii</i> (EN); <i>Polyscias quintasii</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Mapania ferruginea</i> (VU); <i>Croton stellulifer</i> (End&VU); <i>Discoclaoxylon occidentale</i> (End&VU); <i>Staudtia pterocarpa</i> (End&VU); <i>Angraecum doratophyllum</i> (EN); <i>Bulbophyllum lizae</i> (End&EN); <i>Bulbophyllum mediocre</i> (End&EN); <i>Chamaeaegnis thomensis</i> (End&EN); <i>Cribbia pendula</i> (End&EN); <i>Prunus africana</i> (VU); <i>Craterispermum montanum</i> (VU); <i>Pauridiantha insularis</i> (VU); <i>Pavetta monticola</i> (End&VU); <i>Rinorea thomensis</i> (End&VU); <i>Archachatina bicarinata</i> (End&VU). 2 – Additionality and buffering. 3 – Native and secondary lowland and montane rainforest, cliffs and streams. 4 – Silviculture (palm wine, pepper); Water; Timber; Hunting ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> , <i>Treron sanctithomae</i> , <i>Columba thomensis</i> , <i>Sus scrofa</i> ); Ecotourism; Medicinal plants.
F	Maria Fernandes	I1	3982.9	1 – <i>Crocidura thomensis</i> (End&EN); <i>Miniopterus newtoni</i> (End&DD); <i>Bostrychia bocagei</i> (End&CR); <i>Crithagra concolor</i> (End&CR); <i>Motacilla bocagii</i> (End&VU); <i>Columba thomensis</i> (End&EN); <i>Dreptes thomensis</i> (End&VU); <i>Oriolus crassirostris</i> (End&VU); <i>Otus hartlaubi</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Polyscias quintasii</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Mapania ferruginea</i> (VU); <i>Croton stellulifer</i> (End&VU); <i>Discoclaoxylon occidentale</i> (End&VU); <i>Staudtia pterocarpa</i> (End&VU); <i>Brachycorythis basifoliata</i> (EN); <i>Habenaria thomana</i> (VU); <i>Craterispermum montanum</i> (VU); <i>Archachatina bicarinata</i> (End&VU). 2 – Additionality and buffering. 3 – Native and secondary lowland rainforest, peaks, cliffs, rivers and streams. 4 – Silviculture (palm wine, pepper); Water; Timber; Hunting ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> , <i>Treron sanctithomae</i> , <i>Columba thomensis</i> , <i>Bostrychia bocagei</i> ); Ecotourism; Medicinal plants.
G	Vila António	I1	152.9	1 – <i>Bostrychia bocagei</i> (End&CR); <i>Motacilla bocagii</i> (End&VU); <i>Dreptes thomensis</i> (End&VU); <i>Oriolus crassirostris</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Staudtia pterocarpa</i> (End&VU). 2 – Additionality and buffering. 3 – Secondary lowland rainforest and river. 4 – Silviculture* (palm wine); Water*; Timber*; Hunting* ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> , <i>Treron sanctithomae</i> , <i>Columba thomensis</i> , <i>Bostrychia bocagei</i> ); Medicinal plants.
H	Praia Grande	O1	76.3	1 – <i>Miniopterus newtoni</i> (End&DD), <i>Eretmochelys imbricata</i> (CR); <i>Chelonia mydas</i> (EN); <i>Dermochelys coriacea</i> (VU); <i>Pandanus thomensis</i> (End&VU*). 2 – Additionality and buffering. 3 – Mangroves, secondary coastal rainforest, coastal cliffs and river. Bat roost: <i>Rousettus aegyptiacus thomensis</i> (sEnd), <i>Miniopterus newtoni</i> (End&DD). 4 – Fishing*; Silviculture* (Coconut, Indian almond, <i>Pandanus thomensis</i> ); Natural dyes* ( <i>Rhizophora</i> sp.); Timber * (mangrove trees); Ecotourism; Recreation; Hunting; Medicinal plants.
I1	Cão Pequeno	I2	506.3	1 – <i>Motacilla bocagii</i> (End&VU); <i>Columba thomensis</i> (End&EN); <i>Oriolus crassirostris</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Croton stellulifer</i> (End&VU); <i>Staudtia pterocarpa</i> (End&VU*); <i>Craterispermum montanum</i> (VU*). 2 – Additionality, buffering and connectivity (southern exclave to core park). 3 – Native and secondary lowland rainforest, secondary coastal rainforest, peaks, cliffs and rivers. 4 – Water*; Hunting ( <i>Cercopithecus mona</i> ); Timber; Ecotourism; Medicinal plants.
I2	Sarcinda	I2	494.1	1 – <i>Columba thomensis</i> (End&EN); <i>Oriolus crassirostris</i> (End&VU); <i>Otus hartlaubi</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Schefflera manni</i> (VU); <i>Croton stellulifer</i> (End&VU). 2 – Additionality, buffering and connectivity (southern exclave to core park). 3 – Native and secondary lowland rainforest, peaks, cliffs and streams. 4 – Water; Hunting ( <i>Cercopithecus mona</i> ); Timber; Silviculture (palm wine); Medicinal plants.
K1	Praias do Sul	I2	60.2	1 – <i>Eretmochelys imbricata</i> (CR); <i>Chelonia mydas</i> (EN); <i>Dermochelys coriacea</i> (VU); <i>Pandanus thomensis</i> (End&VU). 2 – Additionality. 3 – Secondary coastal rainforest, beaches and coastal cliffs.

Code	Name	Priority	(ha)	Triggers
				4 – Ecotourism; Recreation; Fishing; Silviculture* (Coconut, Indian almond, <i>Pandanus thomensis</i> ); Hunting; Medicinal plants.
K2	Jalé	I1	45.5	1 – <i>Eretmochelys imbricata</i> (CR); <i>Chelonia mydas</i> (EN); <i>Dermochelys coriacea</i> (VU); <i>Pandanus thomensis</i> (End&VU*). 2 – Additionality, buffering and connectivity (southern exclave to core park). 3 – Secondary coastal rainforest, beaches and coastal cliffs. Bat roost: <i>Eidolon helvum</i> . Main marine turtle nesting beach. 4 – Ecotourism; Recreation; Fishing; Silviculture* (Coconut, Indian almond, <i>Pandanus thomensis</i> ); Hunting; Medicinal plants.
K3	Cantagalo	I3	97.8	1 – <i>Miniopterus newtoni</i> (End&DD); <i>Treron sanctithomae</i> (End&EN). 2 – Additionality, buffering and connectivity (southern exclave to core park). 3 – Secondary coastal and lowland rainforest, beaches, coastal cliffs, peak and streams. 4 – Water; Silviculture* (Palm wine, Coconut, Indian almond, <i>Pandanus thomensis</i> ); Hunting ( <i>Cercopithecus mona</i> ); Timber; Medicinal plants.
K4	Xixi	I1	62.3	1 – <i>Eretmochelys imbricata</i> (CR); <i>Chelonia mydas</i> (EN); <i>Pandanus thomensis</i> (End&VU*). 2 – Additionality, buffering and connectivity (southern exclave to core park). 3 – Secondary coastal and lowland rainforest, beaches, coastal cliffs and streams. 4 – Recreation; Fishing; Silviculture* (Coconut, Indian almond, <i>Pandanus thomensis</i> ); Hunting; Timber; Medicinal plants.
K5	Mussacavú-Willy	I1	245.9	1 – <i>Columba thomensis</i> (End&EN); <i>Oriolus crassirostris</i> (End&VU); <i>Treron sanctithomae</i> (End&EN); <i>Eretmochelys imbricata</i> (CR); <i>Chelonia mydas</i> (EN); <i>Schefflera manni</i> (VU); <i>Pandanus thomensis</i> (End&VU). 2 – Additionality, buffering and connectivity (southern exclave to core park). 3 – Native lowland rainforest, Secondary coastal and lowland rainforest, beaches, coastal cliffs, peaks and streams. 4 – Hunting ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> , <i>Treron sanctithomae</i> , <i>Columba thomensis</i> ); Timber* ( <i>Manilkara obovata</i> ); Fishing; Silviculture (Palm wine, coconut, Indian almond, <i>Pandanus thomensis</i> ); Ecotourism; Medicinal plants.
L	Pico Macurú	O2	35.5	2 – Additionality. 3 – Native and secondary lowland rainforest, cliffs and peak. 4 – Hunting ( <i>Cercopithecus mona</i> , <i>Archachatina marginata</i> ); Timber* ( <i>Manilkara obovata</i> ); Fishing; Silviculture (Palm wine, coconut, Indian almond, <i>Pandanus thomensis</i> ); Medicinal plants.
K6	Costa sudoeste do Ilhéu das Rolas	O1	43	1 - <i>Eretmochelys imbricata</i> (CR); <i>Chelonia mydas</i> (EN); 3 – Cliffs; Main nesting beaches of <i>Eretmochelys imbricata</i> in São Tomé. 4 – Fishing, Tourism, Coconut
A3	Costa norte entre Praias das Conchas e Diogo Nunes	O1	148	1 – <i>Lepidochelys olivacea</i> (VU); <i>Chelonia mydas</i> (EN); <i>Dermochelys coriacea</i> (VU) 2 – buffering and connectivity (northern exclave to core park). 3 – Mangrove; Most important nesting beaches of <i>Lepidochelys olivacea</i> (VU) in the country. 4 – Fishing, Tourism, Sand mining

### Annex 3 - RECENT AND ONGOING DONOR-FUNDED PROJECTS

The following list is of relevant projects that were recently implemented and/or are planned for the near future (updated February 2020).

Biodiversity science, protected areas, buffer zones and HCV forests

#### **Projects under BirdLife International including ECOFAC-6.**

The EU-funded ECOFAC (Ecologie des Forêts d’Afrique Centrale) programme is part of a regional initiative that focuses on the conservation of forest ecosystems. ECOFAC began its operations in São Tomé and Príncipe in 1992 under the responsibility of the then Directorate of Forestry, with the aim to establish protected areas on both islands and put systems in place for their management as well as sustainable utilisation of their buffer zones. The successive ECOFAC projects contributed to the establishment of the two Natural Parks, initial development of ecotourism services including community-managed lodges, hiking trails and the establishment of the Botanical Garden at the PNST main entrance, promotion of agro-forestry practices in buffer zones, support to biodiversity-related research programmes, and under ECOFAC-5 the development of a protected area management plan for 2015-2020. From 2005 to the end of ECOFAC-4 (and partly ECOFAC-5, the main grant being given to MARAPA/ALISEI consortium for the development of Jalé eco-lodge), the ECOFAC projects in STP were implemented by Government, with mixed success.

The ECOFAC-6 project started in 2018 (EUR2,000,000.00, 2018-2022), and is for the first time in STP being implemented through an NGO – BirdLife International with a consortium of NGOs that includes OIKOS, SPEA and RSPB. The project aims to reinforce management of the two NPs, to mainstream biodiversity in development decision-making, to create new models for the management of the buffer zone involving communities, and to raise new sustainable finance for the PAs especially through tourism.

BirdLife is leading on further projects in STP, including “Sao Tomé’s buffer zone hotspot: A unique landscape for people and nature”, with the University of Lisbon and funded by Rainforest Trust (\$210,890.00, 2018-2022); under this project High Conservation Value forest areas were mapped on São Tomé Island, to provide the evidence base for site prioritisation, protection and management, and developing Land-Use Models for these. It supports the Protected Area Management Committee and integration in existing forest management platforms.

BirdLife will be the Responsible Partner for the GEF-funded project ‘Enhancing Biodiversity Conservation and Sustainable Land and Natural Resource Management’ expected to start in 2020. The project will be implemented through the DGA/MOPIRINA and aims to safeguard globally significant terrestrial biodiversity and ecosystems services by strengthening national capacities and frameworks for biodiversity and natural resource management, integrated land use planning and environmental law enforcement as well as enhancing protected area management and the sustainability of charcoal production. The project focusses on three main components: 1) Enhancing systems and enforcement for biodiversity conservation and integrated landscape and natural resource management; 2) Management, monitoring and financing of PAs and adjacent key biodiversity and forest areas; and 3) Reducing forest degradation and ecosystem loss from unsustainable charcoal-making.

#### **Additional projects:**

- Fundação Príncipe/FFI/University of Coimbra/Missouri Botanical Garden/Príncipe Forest Department project, funded by GTC - Global Tree Campaign (\$127,270, 2019-) “Taking action for Príncipe’s threatened trees”, which aims to train and support capacity of local people to create and implement recovery plans for three threatened tree species (*Chytranthus mannii*, *Strephonema* sp. and *Carapa gogo*); understand the social context and human pressures for the species; conduct research to understand their biology and reproduction; establish an experimental nursery for propagation and to develop a germination protocol aimed at the reinforcement of wild populations; support government in implementing and reviewing existing legislations regarding forest use and to embed the action plan for the target species in the Management Plan of Ôbo National Park; conduct a pilot study on regeneration of *Strephonema* sp. inside the Natural Park using reinforcement plantation; draft a participatory best practices guide for sustainable bark and fruit collection of *Chytranthus mannii*; support the Forest Department using the regional list of threatened species and recovery plans created by the project to improve the quality of the Forest Department's procedures and activities as law enforcement, permits and criteria for logging, especially for *Carapa gogo*.
- University of Coimbra/CIAT/PNST project funded by CEPF (\$45,460, 2017-2020) “National Herbarium: Reference for the Knowledge and Conservation of the Diversity of São Tomé and Príncipe Plants”, which aims

to support the structure and technical capacities of the National Herbarium in São Tomé, and ultimately to safeguard the unique and still poorly assessed botanical knowledge of the Island. Activities include: building capacity in herbarium techniques and identification at the University of Coimbra; the granting of specific equipment to the ST Herbarium to follow up with cataloguing activities; botanical collecting missions for the herbarium conducted with experts from UC in the three Key Biodiversity Areas of São Tomé, gathering data to fill gaps for poorly assessed plants; mentoring of local technicians; involvement of local users (traditional healers, field guides); promotion of botanical knowledge and biodiversity awareness. Expected outcomes of the proposed requalification of the National Herbarium of São Tomé and Príncipe, include 1) To document and conserve the flora diversity of São Tomé and Príncipe, constituting itself as a reference collection for future projects; 2) Fill gaps in the taxonomy of the flora of the archipelago, as well as their distribution, ecology and uses; 3) Support management measures and design strategies for the conservation of endangered habitats and species, 4) Act as a centre of science education and communication

- Alisei/Monte Pico/PNOST project funded by CEPF (\$24,840, 2018-2020) “Save the São Tomé Giant Snail: Learning and Teaching to Preserve”, which aims to safeguard the endemic Giant Land Snail, *Archachatina bicarinata*; it will create a conservation breeding centre as a tool to involve, raise awareness of and educate local communities about the conservation of the PNOST; update the IUCN Red List status by obtaining fundamental knowledge about the species’ ecology and biology; investigate the threats affecting the species, including on factors that influence and/or favour the entrance of the introduced invasive West African Giant Land Snail inside the limits of the Natural Park and its interaction with the endemic species.
- Fundação Príncipe/FFI/COOPAPIP project funded by CEPF (\$199,248, 2017-2019) “From Bee-burners to Beekeepers: Supporting Community Beekeeping Organization in Príncipe”, which aims to establish beekeeping and agroforestry as sustainable livelihood options in and around the Príncipe Natural Park to incentivise better management of forest habitat, threat reduction to the western honey bee and restoration of degraded areas.
- Fundação Príncipe/FFI/SPEA (BirdLife) project funded by CEPF (\$99,999, 2017-2020) “Implementing the Action Plan for the Critically Endangered Príncipe Thrush”, which aims to train and build capacity of local people to address knowledge gaps identified in the Action Plan for the Príncipe Thrush (*Turdus xanthorhynchus*); understand social context and human pressures on the bird; and support the government in implementing and reviewing existing legislations regarding forest use, the Príncipe Thrush Conservation Action Plan and the PNP Management.
- Fundação Príncipe/Missouri Botanical Garden/University of Coimbra/Herbarium of STP project funded by CEPF (\$227,643, 2019-2020) “Characterization of the threatened flora of São Tomé and Príncipe”, which aims to identify endangered plant species of São Tomé and Príncipe and rigorously evaluate their conservation status according to the criteria and categories of the IUCN Red List; document, and if necessary, improve the network of Key Biodiversity Areas in the archipelago; build local capacities by training two botanists and two para-taxonomists; disseminate relevant information to stakeholders involved in biodiversity management.
- OIKOS/PNOST project funded by CEPF (\$206,906, 2019-2020) “Participatory management of Malanza and Praia das Conchas mangroves”, which aims to update and implement participative management plans for mangroves of Malanza and Praia das Conchas, in the São Tomé Natural Park, to conserve the last mangrove forests of São Tomé; increase scientific knowledge of ecosystems; implement mangrove conservation and enhancement measures; constitute, train and animate mangrove management committees.
- Fundação Príncipe/FFI/PNP project funded by FFEM (\$31,795, 2018-2019) “Understanding the remarkable biodiversity of Príncipe Island”, which aims to collect valuable data and build local capacity for research and conservation through the implementation of field surveys for birds and molluscs, providing information for the update of the PNP Management Plan and the development of a Conservation Action Plan for the Obô Land Snail.
- Fundação Príncipe/FFI/OIKOS/MARAPA project funded by Blue Action Fund (\$ 2,867,200, 2019-2023) “Establishing a network of marine protected areas across São Tomé and Príncipe through a co-management approach [Omali Vida Nón (Príncipe) and Kike da Mungu (São Tomé)]”, which aims to support the designation of the first Marine Protected Areas (MPAs) across the country and help to create effective marine protection through a network of participatory fisheries management and conservation zones; by promoting sustainable fishing practises and investment into the supply chain; facilitating participatory zoning of MPAs and sustainable use zones; supporting the development of monitoring protocols and building up patrolling skills to enable fishers to control co-management areas; developing local incentives to promote community support and buy-in to conservation measures through enhanced marine product value and increased participation in

marine resource management; and a study assessing the feasibility of establishing long-term financing mechanisms to support MPA management.

- Fundação Príncipe/Governo Regional da Ilha do Príncipe/HBD Príncipe, funded by Kosmos/Arribada Initiative/Príncipe Government/Oak Foundation/Rufford/HBD Príncipe (\$120,000, Ongoing) “Sea Turtle Project - PROTETUGA”, which aims to enhance the conservation status of the three nesting sea turtle species on Príncipe by building the necessary local capacity to ensure their effective protection both on land and at sea; by 1) protection and monitoring the sea turtle populations covering 80% of the nesting beaches and surrounding waters through nocturnal beach patrols, diurnal marine patrols and engaging focal points in the local coastal communities to map areas that turtles use to feed, rest or are interacting with trash around island’s coast. 2) education and awareness to promote and strengthen interdisciplinary and transversely in all actions undertaken, raise awareness of the island's urgent environmental needs, focusing on the threats faced by sea turtles locally, thereby ensuring the integration and support of communities in specific protection and conservation actions. 3) research to better understand the biology and ecology of sea turtles that choose the beaches and waters of the island to feed and reproduce and to find the most effective conservation solutions to the problems and threats they face.
- Programa Tatô/MARAPA (\$167,570 per year, ongoing) “Programa Tatô - Sea Turtle Conservation”, which promotes adequate protection of sea turtles; monitoring and management of critical nesting areas of sea turtles; strengthens the capacities of local communities and national technicians as future leaders for the management, protection, conservation and awareness of sea turtles; develops legal economic alternatives for former hunters and traders of sea turtles; increases communication, awareness and education on the social, economic and ecological value of sea turtles.
- Fundação Príncipe/UNESCO Príncipe Biosphere Reserve project funded by the Aga Khan Foundation (\$45,000, 2018-2021) “COBIO-NET”, which focuses on coastal biodiversity and food security in peri-urban Sub-Saharan Africa: assessment, capacity building and regional networking in contrasting Indian and Atlantic Oceans.

### Environmental mainstreaming into Agriculture

For several decades IFAD has been supporting the Government of STP in the agriculture and fisheries sector. This includes the USD 19.2M project “Participatory Smallholder Agriculture and Artisanal Fisheries Development Programme (PAPAFPA)”<sup>19</sup> that was implemented between 2001 and 2015. From 2012 to 2017, this project was co-financed by a GEF-5 grant for the project “Integrated Ecosystem Approach to Biodiversity Mainstreaming and Conservation in the Buffer Zones of the Obo and Príncipe Natural Parks” (\$2,418,182), implemented by IFAD/MOPIRNA/MAPRD. The project was conceived to face causes of biodiversity loss and ecosystem degradation by means of an integrated approach linking up a direct support to actors and stakeholders, implementation of investments for the sustainable development of target communities in rural, PA buffer areas and the deployment of monitoring actions making use of modern technologies and adequate know-how, and the implementation of a private-public tourist platform (tourist operators, eco-lodge and hotel owners, agricultural cooperatives and international certification bodies), to promote agro-tourism packages to international tourists. The project aimed to sustainably manage 7,200 ha of biodiversity-rich ecosystems; 5,000 ha of forests in buffer zones; 2,000 ha of marine ecosystems; and 200 ha of mangrove forests. The project prepared a baseline assessment of fisheries resources, training of 1,090 farmers in agroforestry methods, and the development of a management plan for mangrove forests.

The successor project Smallholder Commercial Agriculture Project (PAPAC, \$12.2M, 2015-2020) has as objectives to reduce rural poverty and food insecurity in STP, through 1) Development of three inclusive value chains for organic cacao, coffee, and pepper, 2) Development of family plantations, 3) Strengthening of producer associations.

The latest successor project has been signed, to start in 2020. COMPRAN will focus on extending the practices and the cooperative approach to other farmers and commodities which support the national policies of MAPDR to gradually reduce food imports and replace them with local products and expand the production base by increasing and diversifying agricultural production, livestock and fisheries.

These projects have brought important livelihood improvements to rural farmers in STP. The introduction of organic value chains is also a notable success with ecological and human health benefits. However, the returns for biodiversity and sustainable buffer zone management are less visible. The successful promotion of the pepper value chain may

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<sup>19</sup> [https://www.ifad.org/en/web/operations/project/id/1100001027/country/sao\\_tome\\_and\\_Principe](https://www.ifad.org/en/web/operations/project/id/1100001027/country/sao_tome_and_Principe)

well have negative impacts on ecosystems, and there are plans to expand production. Further biodiversity and environmental mainstreaming in the agriculture sector appears indicated.

#### Forest management and environmental law policing and enforcement

Several relevant projects have recently been implemented and are planned for the near future by government with support from its international partners that respond to several of the priorities in the PNDF. This includes most notably:

##### **On Non-Timber Forest Products.**

- The regional AfDB-funded project “Enhancing the contribution of non-wood forest products to food security in Central Africa”, led in STP by FAO/MAPDR (2014-2017, \$845,000), which aimed to develop marketing circuits for selected NTFPs (all of which except the first were interestingly not native but exotic species: palm wine, jackfruit, tamarind, Chayote *Sechium edule* and the two invasive species West Indian Strawberry and West African Giant Land Snail), contributing also to sustainable forest management. The project supported the development of a National Strategy and Action Plan for the Development of the NTFP Sector; prepared an amendment of the Forestry Law 5/2001 in line with the COMIFAC Directives on NTFP (which however has not been adopted).
- The ongoing DFB/FAO (TCP/STP/3704) project “Support for the development of rural activities to improve food and nutrition security and value chains of NTFPs in São Tomé and Príncipe” (\$200,000, 2019-2021), working on: capacity building and training; NTFP legislative framework; biological and economic characterization of existing NTFPs; development of business plans for the transformation and marketing of NTFPs; national and international marketing (value chain development) for transformed NTFPs.
- The African Union-funded DFB/University of Coimbra project (\$700,000, 2018-2021) “Implementation of Agroforestry Systems in Sao Tomé and Príncipe degraded lands, and development of non-wood forest products (NWFP) in Angola and Sao Tomé & Príncipe to improve income-generation and food security”, which aims to develop more innovative NTFPs, by: 1) analysing options available to farmers for the implementation of agroforestry management models, based on tradition and culture and the needs of existing local and regional markets; 2) finding ways to recreate an agroecological succession in degraded lands that, denying the need for forest clearance, meets the urgent needs of food and nutritional security (through Forest Agriculture and participatory tree domestication programs); and 3) find commercially viable products and marketing strategies to develop non-timber forest products (food, medicinal plants and mushrooms), creating a successful and sustainable agroforestry system and creating opportunities in communities to process these products with added value.

**On NTFP and Sustainable Charcoal.** The EU-funded project (\$719,680, 2015-2018) “Inclusive development of the Lembà District (São Tomé)” implemented by the Italian NGO Alisei (Associazione per la cooperazione internazionale e l'aiuto umanitario) and the local government, which aimed to 1) elaborate a development plan for the Lembà District; 2) build a processing plant for breadfruit and the production of flour to be used locally in the production of bread; 3) test new materials to replace charcoal; 4) implementation of a training course to coach local community members to become eco-guides; and 5) undertake awareness or educational activities for school pupils by using journalists working in local radios. The project tested charcoal briquettes made from sawdust and recycled organic matter and found these to be successful. There was no follow up.

**On REDD+ Carbon Credits.** The ongoing CEPF-funded project “Obô-Carbono - Participatory Management for Community-based Avoided Deforestation in São Tomé Obô Natural Park” (DFB, RSET, WayCarbon, PNOST, ADAPPA; \$296,000, 2019-2020), which aims to strengthen participatory community-based management of PNOST and its buffer zone to improve governance through the integration of stakeholders in planning and decision-making, the production of data for management, and the access to financial flows for sustainability interventions via the implementation of a REDD + pilot project – by completing the first step towards offering verified REDD+ carbon credits on the voluntary carbon market, following the VERRA-VCS route.

**On National Forest Monitoring.** Two parallel attempts to develop an online, geo-referenced digital platform database, addressing OO 3.1.1. Firstly, the National Forest Monitoring System developed under DFB (MAPDR) with UNDP/GEF-5 support, meant to be available for implementation from 2019. Secondly, under the National Observatory for the Environment (MOPIRINA) developing a climate change monitoring system. There is a lack of coordination between the two developments, and there are concerns about their suitability, the former being set up by ESRI Portugal with the

application not free of charge; wherefore they would better be streamlined. Both systems need to be benchmarked, ground-truthed and made available to the public. This may take place under the following DFB-FAO/GEF-6 project.

***On Illegal Timber Logging and Forest Landscape Restoration.*** The GEF-6 funded project implemented by DFB/FAO “Landscape Restoration for Ecosystem Functionality and Climate Change Mitigation in the Republic of São Tomé e Príncipe” (\$4,666,515, GEF # 9517, 2019-2023). Component 1 - Policy Development and Integration will create a coordination platform for forest and landscape restoration, empower DFB, establish a Forest Landscape Plan to inform and guide future forest management, conservation, and restoration initiatives. The component will also work towards the improvement of the policy framework for FLR, with the amendment of existing, and the adoption of new laws, regulations, and incentives. Component 2 - Implementation of Restoration Programs and Complementary Activities and complementary SLM initiatives (agroforestry, organic fair-trade products, sustainable use of NTFP, and engage rural communities and the private sector for a more sustainable and efficient exploitation of timber and wood, through improved and more regulated harvesting and utilization. Component 3 - Institutions, Finance and Upscaling, to develop the capacity of relevant actors – institutions, private sector, and civil society – to understand, develop and implement FLR initiatives, promote the establishment of partnerships and definition of arrangements to harness existing domestic public financing structures, design new financial products to support landscape restoration activities, and achieve a more conducive environment for FLR financing, triggering a new flow of public and private finance into restoration and sustainable land management through the promotion of bankable projects. Component 4 - Knowledge, Partnerships, Monitoring and Assessments, and linkages with GCP will focus on the set up of a monitoring & evaluation framework for FLR, and on the integration of the STP project into the wider TRI programmatic knowledge management system, inter alia to develop a GIS-based National Forest and Landscape Monitoring System.

The National Platform for Forest Landscape Restoration was formally established in 2019 (MAPDR Dispatch 39/2019) and includes most of the actors related to forest management in STP.



## Annex 4 - KEY STAKEHOLDERS CONSULTED

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OIKOS / ZATONA ADIL	Cândido Rodrigues	Promotor Comunitário	candidooikos@gmail.com
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ONG MARAPA	Daniilsa Cunha de Almeida	Técnica	Danilsab2@hotmail.com
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Plano Nacional de Ordenamento do Território	Peterson Fernandes	Responsável Cartografia/SIG	petersonfernandes_7@hotmail.com
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Representante comunidade - Príncipe	Francisca Afonso	Carvoeira	
Representante comunidade - Príncipe	Felisberto Vaz Almeida	Carvoeiro	
Representante comunidade - Príncipe	Antonio Pereira	Carvoeiro	
Representante comunidade - São Tomé	Martinho Lourenço	Operador de Motosserra	
Representante comunidade - São Tomé	Simão do Rosário	Pequeno Agricultore	
Representante comunidade - São Tomé	Alexandra Rocha	Promotora Comunitária	
Representante comunidade - São Tomé	Gilmar Freitas Martins	Estudante	
Representante comunidade - São Tomé	Abdulay Tavares	Carvoeiro	

Instituição	Nome	Título/função	E-mail
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Valudo	Guillaume Taufflieb	Sócio-gerente	g.taufflieb@valudo.st

## Annex 5 - MAIN CONSERVATION & DEVELOPMENT STAKEHOLDERS

National Central Government & Government of the Autonomous Region of Príncipe

<b>Ministério da Agricultura, Pescas e Desenvolvimento Rural</b>	<b>Direção da Agricultura e Desenvolvimento Rural</b>
	<b>Direção das Florestas e da Biodiversidade</b>
	<b>Direção Geral das Pescas</b>
	<b>Direção de Estudo e Planeamento</b>
	<b>Centro de Investigação Agronómica e tecnológico</b>
	<b>Centro de Aperfeiçoamento Técnico Agropecuário</b>
	<b>Centro de Apoio ao Desenvolvimento Rural</b>
	composta por 4 (quatro) Delegações Regionais a saber:
	Norte (Cidade de Neves)
Centro (CATAP)	
Sul (Cidade de Santana)	
Região Autónoma do Príncipe	
<b>Secretariado de Estado das Obras Públicas, Ambiente e Ordenamento de Território</b>	<b>Direção dos Serviços Geográficos e Cadastrais</b>
<b>Ministério das Obras Públicas, Recursos Naturais e Energia</b>	<b>Direção-Geral do Ambiente</b>
<b>Ministério do Turismo, Cultura, Comercio e Industria</b>	<b>Direção-Geral dos Recursos Naturais e Energia</b>
<b>Ministério da Defesa e Administração Interna</b>	<b>Direção-Geral do Turismo e Hotelaria</b>
<b>Ministério da Justiça Administração Pública e Direitos Humanos</b>	<b>Comissão Nacional da UNESCO</b>
<b>Ministério do Planeamento, Finanças e Economia Azul</b>	<b>Forças Armadas</b>
<b>Ministério dos Negócios Estrangeiros, Cooperação e Comunidades</b>	<b>Polícia Nacional</b>
<b>Ministério da Presidência do Conselho de Ministros e dos Assuntos Parlamentares</b>	<b>Polícia Judiciária</b>
<b>Ministério da Educação, Ensino Superior</b>	<b>Gabinete da Reforma da Gestão das Finanças Públicas</b>
<b>Ministério da Saúde</b>	<b>Inspecção Geral de Finanças</b>
<b>Ministério do Trabalho, Solidariedade, Família e Formação Profissional</b>	<b>Instituto Nacional de Estatística</b>
<b>Ministério da Juventude, Desporto e Empreendedorismo</b>	<b>Agência Fiduciária de Administração de Projectos</b>
<b>Governo Regional - Região Autónoma do Príncipe</b>	<b>Agência de Promoção de Comércio e Investimento</b>
	<b>Direção do Ambiente e Conservação da Natureza</b>
	<b>Direção Regional de Turismo, Comércio, Indústria e Cultura</b>
	<b>Direção Regional de Agricultura, Pescas e Desenvolvimento Rural</b>

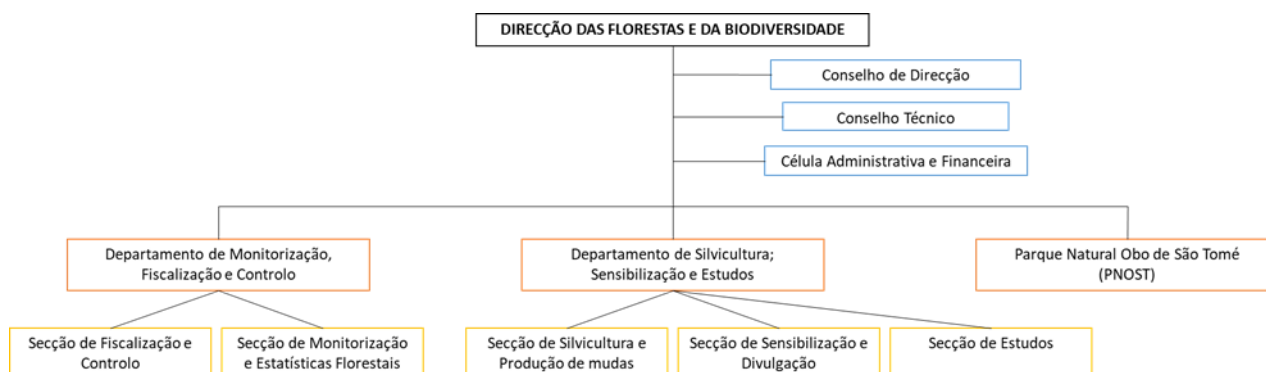
Composition of the XVII Government of Sao Tomé and Príncipe

**Presidência do Governo Regional**  
 Direcção Regional de Planeamento  
 Gabinete Regional de Cooperação e Descentralização  
 Serviço Regional de Comunicação Social  
 Gabinete de Luta Contra Droga

Secretaria Regional das Finanças e da Administração Pública	<b>Secretaria Regional do Ambiente e Desenvolvimento Sustentável</b>	<b>Secretaria Regional da Economia e Cultura</b>	Secretaria Regional de Educação, Saúde e Inclusão Social
Direção Regional das Finanças	<b>Direção do Ambiente e Conservação da Natureza</b>	<b>Direção Regional de Turismo, Comércio, Indústria e Cultura</b>	Direção Geral da Educação e Formação
Delegação Regional de Cartório e do Notariado	<b>Departamento da Floresta e Biodiversidade</b>	<i>Departamento de Turismo, Comércio e Indústria</i>	Secção de Estatísticas, e Recursos Humanos
Delegação Regional Aduaneira	<b>Departamento da Reserva da Biosfera e Parque Natural</b>	<i>Departamento de Cultura</i>	Direção Regional do Ensino Secundário
Serviço Regional da Administração Pública e Recursos Humanos	<b>Departamento do Ambiente e Recursos Naturais</b>	<b>Direção Regional de Agricultura, Pescas e Desenvolvimento Rural</b>	Direção Regional do Ensino Básico
Delegação Regional de Estatística	Departamento Regional de Obras Públicas, Urbanismo e Ordenamento do Território	<i>Departamento de Agricultura e Desenvolvimento Rural</i>	Direção Regional do Ensino Pré-Escolar
	Direcção Regional de Conservação e Manutenção Patrimonial	<i>Departamento da Pecuária</i>	Inspeção Regional de Educação
	Departamento Regional do Serviço Camarário, Municipal e Espaço Verde	<i>Departamento de Pescas</i>	Centro de Formação Integrado Protásio Pina
	Departamento Regional de Transporte, Comunicação Manutenção de Rede Viária e Protecção Civil	Direcção de Regulação e Controlo das Actividades Económicas	Administração Regional de Saúde
	Departamento do Serviço de Oficina e Reparações	Serviço Regional de Inspeção de Trabalho	Serviço Regional da Juventude e Desporto
	Serviço Regional de Meteorologia	Serviço Regional do Emprego	Gabinete Regional de Família e Equidade de Género
			Delegação de Segurança Social
			Serviço Regional de Inclusão e Protecção Social

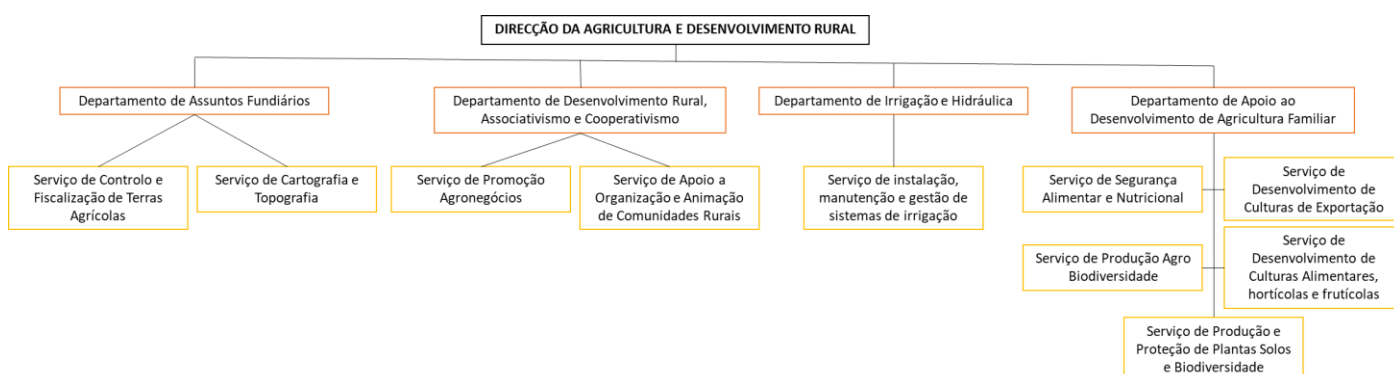
Composition of the Government of the Autonomous Region of Príncipe

**Directorate for Forests and Biodiversity - *Direção das Florestas e da Biodiversidade (DFB)*.** Government body responsible for designing and implementing policies approved for the area of forest promotion and biodiversity, inspection, statistics and promotion of the forest products industry (timber and non-timber product), as well as coordinating the activities of the Obô São Tomé Natural Park (PNOT).



**Department of Land Affairs - *Departamento dos Serviços Fundiários (DSF)*.** Department from the Directorate of Agriculture and Rural Development, responsible for carrying out rural registration, land management and reorganization, and the supervision of land use.

**Directorate of Agriculture and Rural Development - *Direção da Agricultura e Desenvolvimento Rural (DADR)*.** Government body responsible for designing and formulating policies in the fields of agricultural production, in particular export crops, horticultural and food crops, crop and soil protection, their conservation, and the promotion of agro-industrial activities, food security, as well as support for rural development, to associations and farmers cooperatives. Some of its specific attributions are: to articulate and guide the Regional Delegations in the implementation of the policies approved for the areas of family agricultural production; to technically direct all questions related to the implementation of activities that ensure the efficient and diversified development of agriculture; to organize and technically coordinate all actions leading to the promotion of rural development, including the establishment and support of associations and cooperatives; to carry out rural registration, land management and reorganization, and the supervision of land use and sustainable irrigation.



**Directorate of Study and Planning - *Direção de Estudo e Planeamento (DEP)*.** Government body responsible for planning, designing and developing the overall policy and strategic directions for Agricultural and food and nutrition security, as well as carry out due monitoring and evaluation of these policies within the ministry: coordinate the implementation of the development policies defined by the Ministry; articulate with the Technical Directorates and coordinate the activities of the Regional Delegations; participate in the definition and study of development programmes and projects for the sector; ensure the collection, production, processing and circulation of relevant data for the Ministry; propose actions to improve the process of logistics and adequate and timely procurement; establish mechanisms to monitor and evaluate development programmes and projects of the various services of the Ministry, proving their physical and financial implementation.

**Rural Development Support Centre & Regional Delegations - Centro de Apoio ao Desenvolvimento Rural (CADR).**

Agencies that articulate their actions with the respective technical directorates (Directorate for Agriculture and Rural Development, Directorate for Forestry and Biodiversity, Directorate for Fisheries, projects, and other institutions), and are accountable to the Directorate for Study and Planning, being responsible for the area of Technical Assistance and Rural Extension. The responsibility of the Rural Development Support centre is to coordinate and execute the activities of technical assistance and rural extension throughout the national territory; draw up the annual plan for technical assistance and rural extension to producers and fishermen, in close collaboration with the technical directorates; participate and/or collaborate in studies or services for rural areas; follow up the activities of non-governmental organizations and other institutions that develop actions in rural areas; collaborate with research and training institutions in the field of agricultural extension and vulgarization; develop jointly with the department of associativism and cooperativism awareness activities on various topics that affect the rural areas; report to the ministry any possible problems or conflicts on agricultural, forestry and land-use in the area of jurisdiction; elaborate annually and submit to the ministry the needs for agricultural inputs, and proceed with their marketing.

There are four regional delegations: Norte (Cidade de Neves), Centro (CATAP), Sul (Cidade de Santana), Região do Príncipe.

**Agricultural Technical Improvement Centre - Centro de Aperfeiçoamento Técnico Agropecuário (CATAP).**

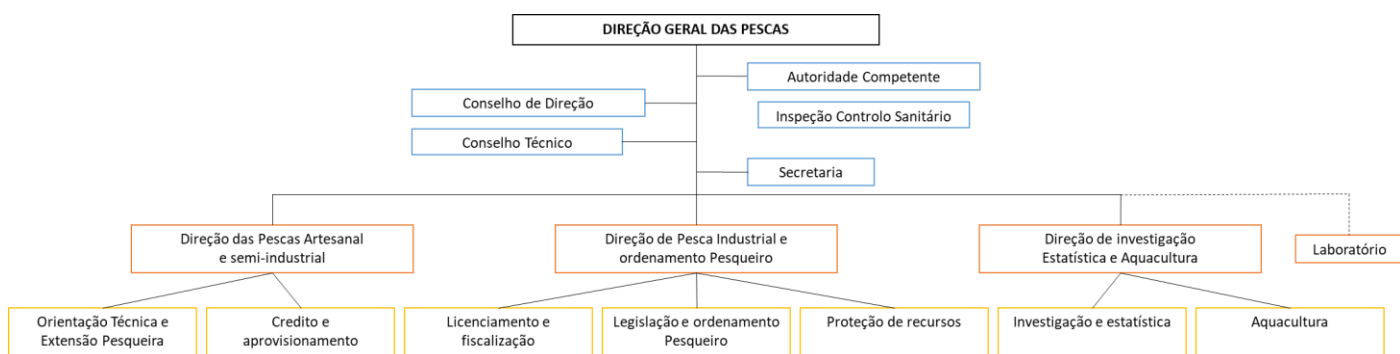
Institution with administrative and financial autonomy focused on the capacity building of technical staff of the MADR, technical and professional training and capacity building of producers, promotion of courses and actions for dissemination to small farmers, holding lectures and seminars on specific topics.

**Agricultural and Technological Research Centre - Centro de Investigação Agronómica e Tecnológica (CIAT).**

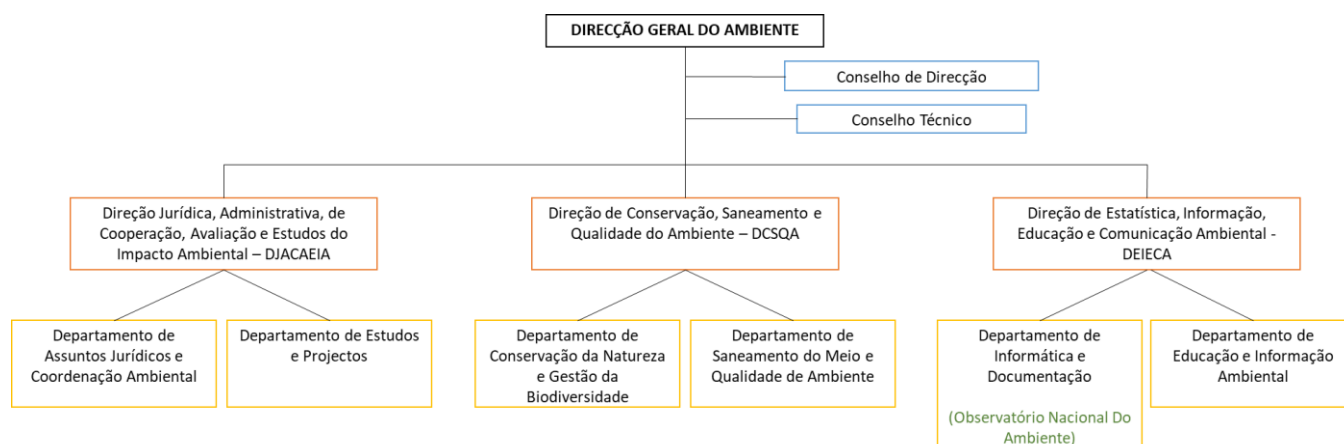
Institution with administrative and financial autonomy dedicated to research in the agronomic field and dissemination of results, with a view to increase productivity and diversification of agro-forestry-pastoral systems. Also, this institution is dedicated to carry out applied research in the area of Food Safety, Nutrition and Quality of Life in close collaboration with the Directorate for Studies and Planning and the Agricultural Development Directorate.

**Directorate for Fisheries and Fishery Resources - Direcção das Pescas e Recursos Haliêuticos (DPRH).**

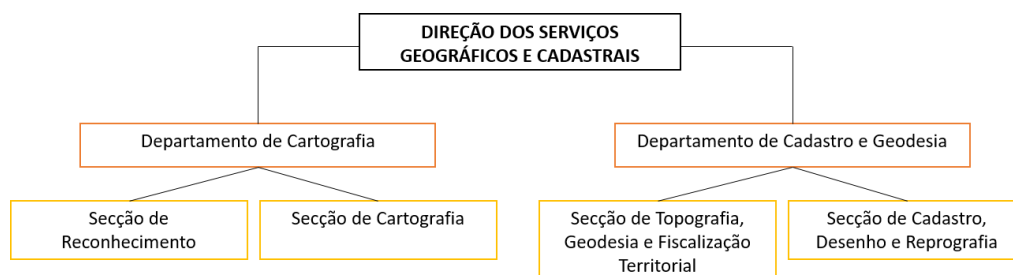
Government body responsible, amongst other activities, for the management of artisanal fisheries projects, registration of artisanal or industrial fishermen, and surveillance of fisheries activities in the EEZ of STP.



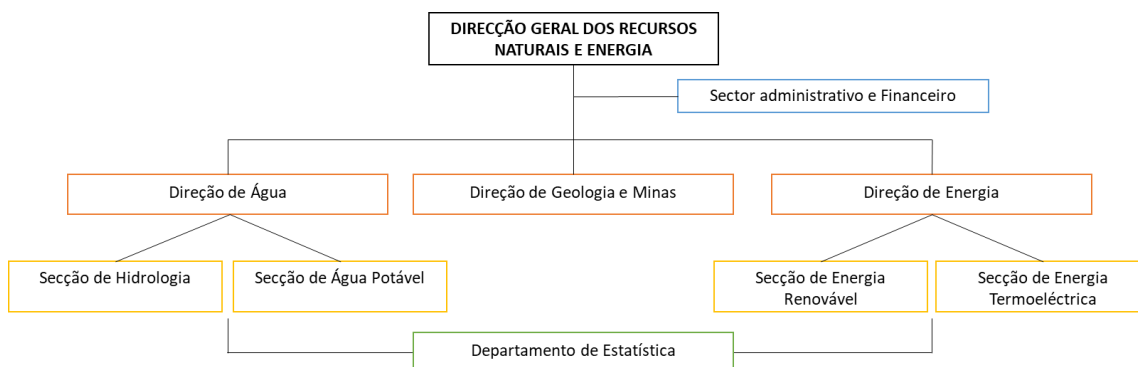
**General Directorate for the Environment - *Direcção-Geral do Ambiente (DGA)*.** Government body responsible for designing and implementing policies related to the environment, conservation / preservation of ecosystems and the longevity of species and life on Earth. The specific attributions are: to guarantee the effective application of laws and other environmental policy instruments, through evaluation and monitoring; collaborate in the elaboration of an integrated environmental policy, ensuring multisector coordination; create and coordinate the National Environmental Information System and produce statistical indicators; accreditation of companies in the environmental area; collaborate in the definition of a waste management policy; encourage the development of new technologies in the environmental area; coordinate the integration of environmental issues in international relations; to propose the appointment of Focal Points for certain environmental areas and to coordinate their actions.



**Directorate of Geographical and Cadastral Services - *Direção dos Serviços Geográficos e Cadastrais (DSGC)*.** Government body responsible for implementing policies in the fields of Cartography, Geodesy and Cadastre, including national spatial planning. In particular: to carry out topographical surveys as well as the elaboration of geographical and thematic maps, carry out calculations, projections and drawings of all the areas surveyed and which should serve as a basis for the elaboration of spatial planning and urban planning instruments; to ensure the application of the policy of land occupation, use and transformation, participating in the control and supervision, for the best protection of the environment; to participate in the elaboration of standards, technical-economic indices and working procedures for spatial planning; to participate in the elaboration and proposal of projects for the development of the urban system.

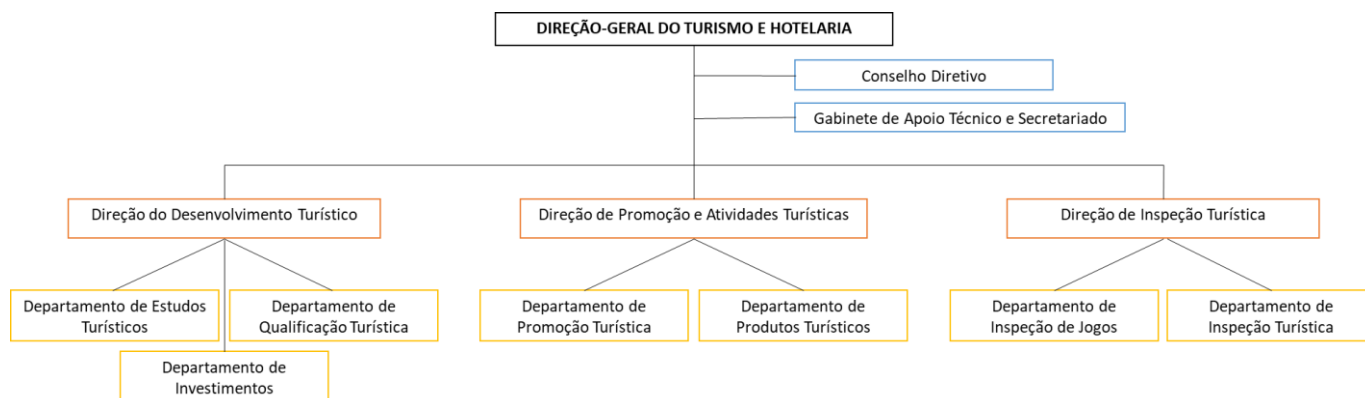


**General-Directorate for Natural Resources and Energy - *Direção-geral dos Recursos Naturais e Energia (DGRNE)*.** Government body responsible for designing and implementing policies related to Natural Resources and Energy. In particular: to elaborate studies and research on the characteristics and conditions of the country's natural resources, its territorial distribution and the level of exploitation; to analyse studies and investigations recommended by general guidelines on the use of the natural resources; to ensure the effective implementation of policy, laws and other policy instruments in the natural resources and energy sector; to ensure integrated management of natural and energy resources.



**Trade and Investment Promotion Agency - *Agência de Promoção de Comércio e Investimento (APCI)*.** Promotion agency, acting as a link between national and foreign investors and state institutions, to facilitate access to investment.

**General Directorate for Tourism and Hospitality - *Direção-geral do Turismo e Hotelaria (DGTH)*.** Government body responsible for the design, implementation and evaluation of policies and overall objectives set by the Government in the fields of tourism and hospitality and regulation, monitoring and promotion of tourism activities. In particular: contribute to the definition of tourism policy and respective implementation and evaluation; promote the improvement of the quality of tourism services; collaborate in the preservation and enhancement of tourism resources, promote and guide their convenient use; contribute to the enrichment and diversification of the national tourism product; encourage and promote the implementation of activities of interest to the tourism sector; to ensure the country's tourism promotion; to support the government in negotiations and decisions, in international bodies, that are related to tourism policy; to ensure competitiveness and fair competition in tourism activities; to promote, with institutions and educational establishments, partnerships with a view to training and building capacity in the tourism, hotel and restaurant sector.





## *Ministry of Defence and Internal Affairs*

**Military Forces, National Police & coast guard - *Forças Armadas, Polícia Nacional & Guarda Costeira (FA, PN & GC)*.** Government body responsible for, among other, ensure and supervise law enforcement, through the administration of the Military Forces, the Security Forces and Services and affiliated institutions.

*Ministry of Justice, Public Administration and Human Rights* Government body responsible for leading, implementing and controlling the policies in the areas of Justice, public administration and human rights.

## *Regional Secretariat for Environment and Sustainable Development of Príncipe (SRADS)*

**Directorate for Environment and Nature Conservation - *Direção do Ambiente e Conservação da Natureza (DACN)*.** Regional delegation of the national General Directorate for Environment and the national Directorate for Forests and Biodiversity, yet under the Regional Autonomous Government of Príncipe. Responsible for designing, implementing, coordinating, monitoring and evaluating the policy defined and approved by the government for the areas of environment, nature and biosphere conservation, public works, natural resources, solid waste and urban development. It entails three departments: the Forest & Biodiversity Department; the Biosphere Reserve & Natural Park Department; and the Environment & Natural Resources Department.

**Regional Department for Public Works, Urbanism and Spatial Planning - *Departamento Regional de Obras Públicas, Urbanismo e Ordenamento do Território*.** This is the regional delegation of the national Directorate of Geographical and Cadastral Services, yet under the Regional Autonomous Government of Príncipe.

## *Regional Secretariat for Economy and Culture of Príncipe (SREC)*

**Regional Directorate of Tourism, Commerce, Industry and Culture - *Direção Regional de Turismo, Comércio, Indústria e Cultura*.** Regional delegation of Ministry of Tourism, Culture, Commerce and Industry.

**Regional Directorate for Agriculture, Fisheries and Rural Development - *Direção Regional de Agricultura, Pescas e Desenvolvimento Rural*.** Regional delegation of Directorate of Agriculture and Rural Development (including CADR) & Directorate for Fisheries and Fishery Resources.

## Parastatal Committees & National Platform

**National Platform for Forest and Landscape Restoration of São Tomé and Príncipe - *Plataforma Nacional de Restauração Florestal e Paisagística de São Tomé e Príncipe (PNRFP-STP)*.** As part of the Landscape Restoration for Ecosystem Functionality and Climate Change Mitigation GEF6-funded FAO-led project, the PNRFP-STP was created and brings together all the relevant actors in the integrated management of forest resources, landscape restoration and promotion of sustainable land use systems.

The main mission of the PNRFP-STP is to guide and support Forest and Landscape Restoration policies and strategies, as well as studies and other actions related to forest ecosystems. To this end, the following competencies and responsibilities are:

- To serve as a forum for discussion and promotion of debate on issues related to Forest and Landscape Restoration in São Tomé and Príncipe;
- Contribute to the dissemination of communication on Forest and Landscape Restoration and ongoing initiatives;
- Promote coordination and synergies between initiatives with an impact on Forest and Landscape Restoration and on the sustainable management of the country's forest ecosystems;
- Coordinate all actions/activities of planning and development of forest and landscape restoration policies in São Tomé and Príncipe;
- Play a leading role in identifying the most appropriate entry points for policy change, including strategic plans, laws, regulations, incentives and intersectoral integration, in formulating measures and changes for policy improvement and in designing concrete policies, regulations and incentives to be incorporated into the national policy framework through an agreed roadmap;

- Collaborate in the development of studies in the field of Forest and Landscape Restoration and in the implementation of other actions related to ecosystem services in forests, and proceed with their validation;
- Guide the Government of São Tomé and Príncipe on new initiatives in the field of forest conservation, management and restoration in the country.

**Implementation Cell of the National Land Use and Management Plan - *Célula de Execução do Plano Nacional de Ordenamento do Território de São Tomé e Príncipe*.** At the beginning of 2016, the African Development Bank (ADB) granted a loan for the project entitled São Tomé and Príncipe National Land Use and Management Plan (PNOT), leaving the Ministry of Infrastructure, Environment and Natural Resources as the entity responsible for implementation, having created its own structure for this purpose, called the Implementation Cell of the PNOT. Mainly based on the observation that many stakeholders, not coordinated, intervene in issues of spatial planning, the PNOT proposes the creation of an authority, bringing together the main stakeholders, in particular the Directorate of Geographic and Cadastral Services and the Department of Land Affairs, which may later absorb other sectors : Create an institutional structure (similar to the PNOT Implementation Cell), properly equipped with human and material resources and, if necessary, supported by consultants with international experience, to manage the implementation of the PNOT and ensure the training of local staff.

**National Committee on Climate Change - *Comité Nacional para as Mudanças Climáticas (CNMC)*.** Body for consultation, training, awareness-raising and facilitation in the design, financing, implementation, validation and monitoring of the different activities (programmes and projects) to be developed within the framework of the implementation of the United Nations Framework Convention on Climate Change and its additional legal instruments in São Tomé and Príncipe. The CNMC should also ensure coherence between programmes/projects and national climate change priorities at the level of adaptation and mitigation. The CNMC assumes the following responsibilities and attributions:

- Provide advice and technical assistance to the Government in making decisions on matters related to Climate Change;
- Promote public awareness and dissemination programs on Climate Change;
- Ensure the centralisation, capitalisation and dissemination of information on Climate Change;
- Provide technical and scientific support to the decisions and orientation of project/programme actions and regular monitoring of their implementation;
- Assume the role of steering committee or technical monitoring of any and all projects related to Climate Change that is implemented in STP, in order to avoid duplication of efforts;
- Validation of Climate Change projects before they are submitted to the international community for funding;
- Issue opinions on certain specific issues.

## Academia

### *Ministry of Education and Higher Education*

**University of São Tomé and Príncipe - *Universidade de São Tomé e Príncipe (USTP)*.** Government body responsible for designing, implementing, coordinating and evaluating the policies for the sectors of Education and Higher Education, preparing and executing the national policy of education, training and higher education. It is also responsible for the administration and management of schools, development, planning, regulation, evaluation and inspection of the educational system.

USTP is a public institution of higher education in São Tomé and Príncipe. It is the only public university in the country. Converted in 2014 into a university after many years existing as several independent educational institutions. Four university campuses, three of which are only in the capital: three institutions and a research and extension centre; 1) Higher Institute of Education and Communication; (2) Higher Institute of Health Sciences, (3) Superior Polytechnic Institute, offering, among others, the following courses: Degree in Biology, Degree in Agronomy, Degree in Hotel Management, Degree in Information System and Technology; and (4) Study Centre for Development - Centre for Agricultural Technical Improvement (CATAP), under the supervision of the Ministry of Agriculture.

Several universities have shown interest in sending master's, doctoral or post-doctoral students, mainly Portuguese universities.

#### Multilateral Agencies

**UNDP** - Sao Tomé and Príncipe office of the United Nations Development Programme

**IFAD** - Sao Tomé and Príncipe office of the International Fund for Agricultural Development

**FAO** - Sao Tomé and Príncipe office of the Food and Agriculture Organization of the United Nations

**AfDB** - Sao Tomé and Príncipe office of the African Development Bank

**WBG** - Sao Tomé and Príncipe office of the The World Bank Group

**EUD** - Delegation of the European Union to Gabon, Sao Tomé-et-Príncipe and CEEAC

**IUCN** - Sao Tomé and Príncipe office of the International Union for Conservation of Nature

#### Non-Governmental Organization

**Fundação Príncipe.** Active only on Príncipe island, the Príncipe Foundation (formerly the Príncipe Trust Foundation) is a non-profit non-governmental organisation that, since 2015, has been working in partnership with regional entities for the conservation and protection of the ecosystems of Príncipe Island, enhancing the economic and social development of local communities. Today, about 40 employees, who are trained in the implementation of marine and terrestrial conservation projects, together with a network of national and international partners (Fauna and Flora International, BirdLife International), who have contributed greatly to the exponential growth of the organisation and, above all, to the capacity of the team that currently coordinates and manages projects independently and with recognized success.

**Oikos – Cooperação e Desenvolvimento.** Founded on February 23<sup>rd</sup> 1988, in Portugal, OIKOS specializes in Development, including Education, Social Mobilization and Public Influence. Oikos opened an office in São Tomé and Príncipe in 2015. Currently OIKOS is an implementation partner of the ECOFAC VI project and the Blue Action Fund, Oikos has carried out projects such as:

- Strengthening civil society and relevant stakeholders to participate in the institutional construction of biodiversity conservation policies and benefit sharing in São Tomé and Príncipe, and
- Sustainable co-management of fisheries in the south of São Tomé Island.

**Federação de Organizações Não Governamentais em São Tomé e Príncipe (FONG-STP).** Created in April 2001, growing (currently 98 members), home to national and international NGOs, FONG-STP has the following main objectives:

- To represent the various Non-Governmental Organizations (NGOs) operating in São Tomé and Príncipe;
- To promote greater cooperation and coordination between National and Foreign NGOs and the Government of São Tomé and Príncipe, as well as with Donors and other individuals and/or institutions involved in Humanitarian Assistance and Development processes in the country;
- Promote and mediate the regional and international cooperation of NGOs as well as develop communication networks for better integration/cooperation and solidarity of its members;
- Promote the strengthening of National NGOs in order to facilitate their long-term sustainability.

**Platform for Responsible and Sustainable Tourism - Plataforma do Turismo Responsável e Sustentável (PTRS).** Based in the city of São Tomé, the PTRS aims to promote responsible and sustainable tourism, in order to protect ecosystems and biodiversity, and preserve cultural and social heritage, through tourism excellence. Created under the GEF5-funded IFAD-led project, the platform brings together tourism operators, cooperatives, civil society, individuals and local associations. In 2018, Mucumbli, Cocoa Residence, HBD, Roça Abade / Príncipe Tours, ABS, AGSTP, Associação Monte Pico, Alisei, FENAPA STP, Zatona Adil, Navetur, Mistral Voyages, STP Tours, Eventur, Pestana Group, Monte Forte, Yam Beach, Mionga, CECAFEB, CECAQ-11, CECAB, Food Crops Sector, CEPIBA, LOBELIA, NGO Marapa / Jalé Ecolodge, Qua-Tela, Hull Blyth, ISLAND TOURS and ICEA were members of the platform. The values shared by the members are defined by 20 pillars described in the 'Sustainability Charter'.

**Gulf of Guinea Biodiversity Centre - Centro de Biodiversidade do Golf de Guiné (CBGG).** In order to facilitate and promote comprehensive / coordinated research and education programmes on the unique diversity of plants and animals on the oceanic islands of São Tomé, Príncipe and Annobón, a group of biologists and educators is preparing to establish the Gulf of Guinea Biodiversity Centre. The Centre will be based in São Tomé with delegation in Príncipe and Annobón. The Gulf of Guinea Biodiversity Centre will:

- Have a research centre with rooms, library and laboratory for scientists, educators and students;
- Provide teaching spaces for nationals and tourists, including an interpretative museum, classrooms and auditorium;
- Create opportunities for residents to develop ecotourism on the islands;
- Act as a logistics platform for research projects;
- Be a repository of information on flora, fauna and conservation on islands.

The Centre will be registered in STP by the end of 2020.

**MAR Ambiente Pesca Artesanal (MARAPA).** Created in 1999, by fisheries technicians, marine biologists and development agents, MARAPA is recognised for its knowledge on the marine environment, fishery resources and artisanal fisheries. Its actions are aimed at the protection of marine and coastal habitats, the co-management of fishery resources and support to actors in the fisheries sector. The Tatô Programme, dedicated to sea turtles, and Operation Tunhã, an initiative for monitoring and follow-up of cetaceans, are noteworthy.

**Associação Programa Tatô (APT).** In 2003, the NGO MARAPA created the Tatô Program, in order to protect sea turtles. For years, MARAPA had the support of several national and international organizations. Over the years, the Tatô Programme team has grown, and, in 2018, the coordination team created an international NGO, the APT, thus maintaining the name, already known by all communities, national authorities, civil society, as well as internationally. Considering the challenges facing the conservation of sea turtles, the APT has an integrated approach to improve the protection and sustainable management of the main habitats of sea turtles (nesting beaches and feeding areas), through the involvement of national stakeholders, through capacity building, through the development of livelihoods alternative and increasing the awareness of coastal communities.

On the island of São Tomé, monitoring activities are held every year along a 23 km stretch of beach. 21 beaches are monitored to the north, east and south of the island, as well as on the beaches of Ilhéu das Rolas. In addition to the main spawning beaches, the feeding and resting areas of sea turtles off the island of São Tomé are also monitored.

**Apoio ao Desenvolvimento de Iniciativas Locais (ZATONA ADIL).** Local association with relatively low resources and limited capacity; but some valuable technical capacity and advanced knowledge on the context in Sao Tomé. Focusing on community awareness, association and farmers' cooperative development and mobilization for the environment. With the right investment, ZATONA ADIL could turn a strong partner in the future, in particular for leading field activities in their area of expertise.

**Associação Monte Pico.** Local association relatively low capacity and resources. Headquartered in Monte Café and operating mainly in the São Tomé Obô Natural Park and its Buffer Zone. Assistance to scientific research, field guides and awareness-raising activities. The internal organisation of the association is fragile and inconsistent, which makes it difficult to plan long-term partnership. However, the members of the association, mainly eco-guides or natural resources users (e.g. hunters) on an individual basis, are indispensable partners to achieve BirdLife's mission in Sao Tomé.

**Ação para o Desenvolvimento Agropecuário e Proteção Ambiental (ADAPPA).** Local association maintaining a partnership with the government (sometimes political) and with other bilateral or multilateral partners, which allows for a certain continuity of action. The association's resources depend exclusively on projects whose management is not under their control. There is a relatively high turnover of technical positions, as a hub (intermediary position) between political positions or positions of responsibility in export cooperatives, for example. . Addressing poverty alleviation, promoting food and nutrition security, and ensuring sustainable development.

**ALISEI (Italian NGO).** Promotes knowledge, undertakes studies and initiatives to combat poverty in underdeveloped countries. In partnership with MARAPA, manages Jalé Ecolodge. It is a generalist NGO, of Italian origin, with a long history of project implementation with mixed results.

**TESE - Associação para o desenvolvimento (Portuguese NGO).** NGO for social innovation, which intervention mostly focussed on in waste management in São Tomé and Príncipe. TESE supports, among other initiatives, the Waste Processing Centre (CPR) in São Tomé, near Santa Casa da Misericórdia.

**Quá-Téla & Federação Nacional dos Pequenos Agricultores (FENAPA).** Local association (groups of producers) working under the umbrella of other local NGOs for the valorisation of national products (agri-businesses).

### Community Based Organisations & Groups

**Local communities.** All communities surrounding PAs or located in forested areas or users of Natural Resources are to be involved in strategy-related project activities; as well as the urban centres where resale / market is centralized.

**Land owners.** Group of users (charcoal, logging, NTFP, etc.).

### Private Sector - Agribusiness and Agriculture

**Valúdo** Created in 2018, Valúdo is a growing Santomean company specialized in processing coconuts with organic and fair-trade certifications. The Valúdo out-grower project and the Fair-Trade certification provide growers and harvesters with stable financial benefits in exchange of the supply of coconuts. They provide inputs and technical support to the growers and harvesters in order to improve the productivity of their coconut plantations; by combining traditional Santomean practices with modern processes of quality and control. Valúdo is responsible for transport and logistics to reach the out-growers and their production, including those who live in remote communities. This service allows for the greatest number possible of out-growers to have a source of income.

Valúdo is supporting more than 300 Santomean coconut harvesters, and process more than 2,880,000 coconuts per year at the Favorita Processing Center. The selected coconuts are first stored in collection areas closed to where they were collected. They are then transported to the processing center where Valúdo produces oil and other products.

The company's objective is to successfully recycle 100% of coconut waste.

**HBD** Investment group (Mark Shuttleworth). Sustainable eco-tourism project on Príncipe: currently 3 high-class tourism lodges '0-carbon', Sundry Praia, Bom Bom, Roça Sundry. Large investor on Príncipe island in tourism, private, philanthropic, HBD works in close collaboration with the Regional Government. HBD has played a major role in the impressive development of Príncipe Island over the past 8 years, by investing in infrastructure and supporting government-endorsed socio-environmental projects. HBD is an active partner in the development of the island's sustainable development agenda. Financing / supporting Fundação Príncipe (NGO initially created to take the lead on the corporate activities of the investment group and gradually becoming independent). Also, HBD supports schemes to resettle communities into forest areas designated by government, bordering the Azeitona forest (northern area of the PNP). HBD has a large local and expatriate workforce. 1st producer of coconut on Príncipe island.

**Export Cooperatives.** CECAB (Cooperativa de Exportação de Cacau Biológico), CECAQ-11 (Cooperativa de Exportação de Cacau Convencional), CECAFEB (Cooperativa de Exportação de Café Biológico) and CEPIBA (Cooperativa de Exportação de Pimenta Biológica) are cocoa, pepper and vanilla export cooperatives.

Over the past two decades, the Ministry of Agriculture, with financial support from IFAD and the French Agency for Development, has fostered the creation of 4 export cooperatives and the development of partnerships with European companies working in the field of bio-equitable trade (KAOKA, CaféDirect, GEPA, Hom & Ter, Malongo, SlowFood). By 2015, these cooperatives exported about 50% of cocoa beans national production and 100% of coffee and pepper. Recent studies (2014) show that the economic profitability of cooperative members has more than doubled in ten

years for cocoa. Since January 2012, the oldest of the four cooperatives has achieved full managerial and financial autonomy (CECAB). Cocoa remains the country's most exported agricultural production and the largest source of income.

**Agripalma.** Company in Sao Tomé active in the oil palm plantation industry (Socfin group): concession of 4,917ha in the south of São Tomé Island; approximately 2,100ha of palm trees planted to the South-East / South of the island of São Tomé. The factory, being built in Emolve, started producing oil in 2020. On the RSPO route, Agripalma is showing a growing interest in actively participating (financially) in conservation & biodiversity in Sao Tomé.

**Diogo Vaz.** Chocolate and associated products manufacturer based on the Diogo Vaz Farm, North-West of São Tomé Island (c.350ha concession).

**Claudio Corallo.** Chocolate (Terreiro Velho, Príncipe) and coffee (Nova Moca, São Tomé) manufacturer.