

**Terms of Reference for the development and implementation of a  
Spatial Monitoring and Reporting Tool: SMART<sup>1</sup> Conservation tools, for São Tomé and Príncipe  
terrestrial and marine ecosystems  
- International Consultancy -**

Consultancy Period	Between July and September 2022
Line Supervision	BirdLife International
Project	EU-funded Landscape and UNDP/GEF-funded Biodiversity Projects
Type of Contract	Consultant, consulting company, non-governmental organisations
Duty Station / Location	Home Based with at least 1 trip to São Tomé and to Príncipe islands
Languages Required	Portuguese, English
Duration of Contract	20 - 30 days

## **BACKGROUND**

The oceanic island state of São Tomé and Príncipe (STP) features a remarkable wealth of biodiversity, including many endemic plants, invertebrates, and vertebrates, of which birds are one of the most important and charismatic groups. Stretching over a quarter of its 1,001 km<sup>2</sup>, the country's native forests include some of the largest concentrations of unique species in the world. A high proportion of globally threatened species thus rely mainly on the well-preserved forest landscape, but the country's water areas are also very rich in biodiversity.

Since 2006, two terrestrial Protected Areas (PA) have been established in the country: the São Tomé Obô Natural Park (PNOST) and the Príncipe Natural Park (PNP). These include the mountainous core of both islands, covering in total about one third of the national territory. To date, no Marine Protected Area has been legally recognized, however, since 2018, studies are ongoing to delineate a network of conservation areas around both island coastlines. In addition to constituting key areas for biodiversity conservation, PAs and their buffer zones provide key services to human populations on the islands, such as clean water and climate regulation (ecosystem services).

The National Directorate of Forests and Biodiversity is the institution responsible for forest management in São Tomé and Príncipe and as such, it is also tasked to carry out monitoring and surveillance of forestry activities, both for the collection of timber and non-timber forest products (NTFP). Its intervention is not restricted to monitoring but is also related to raising awareness at the island level to reconcile the sustainable use of natural resources with the conservation of forests and their fauna. Its counterpart at the regional level, is the Regional Directorate of Forests and Biodiversity. In addition, the Environment Directorate and its regional counterparts also monitor biodiversity and are responsible for the Nagoya protocol implementation. The PNOST and PNP staff are dedicated to the implementation of the Park Management Plans, including monitoring of biodiversity and threats inside their boundaries. A recently created Environmental Police Unit, will also take part in monitoring threats to biodiversity in São Tomé Island.

<sup>1</sup> <https://smartconservationtools.org/>

Despite the monitoring effort in place, unsustainable practices, legal and institutional frameworks gaps and barriers, limited capacities, and a lack of funding are increasing conservation challenges daily. In particular, burgeoning human population exacerbates the challenges of maintaining forest integrity and the fragile balance between biodiversity conservation and development. Among the most important threats to the forest are logging, charcoal production and the collection of NTFPs such as snail, palm wine and medicinal plants. Threats to the marine ecosystem are mainly unsustainable fishing practices and offshore oil extraction developments. It is therefore critical to increase knowledge and monitoring capacity on biodiversity and threats in STP, in a standardized way across institutions and islands, to inform conservation management and sectorial practices.

Since 2018, BirdLife International, with a consortium of partner NGOs, started supporting authorities through the ECOFAC6 project for the conservation of fragile forest ecosystems, to develop a bi-annual monitoring protocol of the PNST biodiversity and threats along transects from the buffer zone towards the native forest. In addition, BirdLife supported the 'Plataforma de Turismo Responsável e Sustentável' (PTRS) to establish, in 2020, a team of Obô Guardians, to provide support to government technicians to patrol the PNST and its surrounding forests, to monitor biodiversity and raise awareness in neighbouring communities. In Principe Island, Fauna & Flora International and Fundação Principe supported the PNP to develop and implement a monitoring protocol focusing on endangered species (Principe Thrush and Obô Snail), and work toward progressive leadership of this activity by the Park agents. In parallel, since 2018, Fauna & Flora International is working with a consortium of partners to implement a project supported by the Blue Action Fund which has the aim at creating a network of co-management marine protected areas (MPAs) in STP. The project will establish socio-ecological monitoring plans to inform MPA management, including assessment of threats.

To capitalize on national and regional biodiversity & threat monitoring effort and data, for evidence-based and concerted conservation actions across sectors and actors, it is necessary to develop a standardized monitoring protocol, that is replicable and comparable, regardless of who perform the work. The Spatial Monitoring and Reporting Tool ([SMART](#)) is a valuable tool for this task, which provides an open access software to collect, measure, and evaluate biodiversity & threat data. SMART is now used in over 1,000 sites and 70 countries globally to help conservationists manage and protect wildlife and wilderness areas.

This consultancy is therefore a joint effort between the government institutions responsible of biodiversity and protected area monitoring and management, and a consortium of NGOs with experience in STP terrestrial and marine ecosystems led by BirdLife International, with support of Fauna & Flora International and Fundação Principe, to develop and implement a standardized SMART system for São Tomé and Principe islands, which will include terrestrial ecosystems in Sao Tomé, and terrestrial and marine ecosystems in Principe. The consultancy will first introduce SMART to the national authorities and relevant stakeholders, then provide recommendations, based on data available and pilot field studies, on the best adapted SMART tools, settings and training needed for long-term viability of SMART implementation in protected areas of STP. Capacity building is an integral part of this assignment, as major understanding, and appropriation of the monitoring system by relevant local actors and government institutions responsible for biodiversity and PA management will be key for the success of this initiative, and for the collection of good quality data to inform PA management. Finally, the strong attractiveness of São Tomé and Principe for nature tourism makes it a great candidate for the development of citizen science interface to increase data collection through public mobile solutions.

## OBJECTIVE

The objective of this assignment is to set-up a national Spatial Monitoring and Reporting Tool: SMART Conservation tools for STP, that can be implemented to monitor and regularly report on conservation of terrestrial and marine protected areas and ecosystems in the country.

The consultancy will be three-fold:

- (1) Building on literature and available experts' knowledge, develop, pilot and adapt a SMART data model and associated tools for STP, including well-thought conservation areas, biodiversity, threats and data capture procedures to support patrolling in both ecosystems,
- (2) Set-up of local equipment and the development/update of monitoring protocol for the responsible entities according to pre-defined mandates,
- (3) Build capacity of relevant stakeholders for early implementation of the SMART tools; including of a SMART officer responsible for compiling the info at national level.

## DUTIES AND RESPONSIBILITIES

### 1) SMART data model development and set-up for São Tomé and Príncipe

- Organize workshops and series of stakeholders' consultations to seek inputs from relevant institutions, NGOs and experts on what data categories and attributes are required, as well as to define the conservation areas to cover, at national and regional level, and identify data holders to develop an outline of the data model;
- Review the existing local biodiversity monitoring database (e.g. Forest & Environment Directorates' databases) to provide support and advice to local institutions on improving and/or liaising their monitoring system with SMART;
- Centralize existing data from relevant experts and stakeholders for the SMART data model in Portuguese language (conservation areas, species lists, threats, patrol types, etc.);
- Analyse and make recommendations as to the most appropriate SMART tools to apply in the context of STP, considering capacity constraints and the need to function across terrestrial and marine PAs;
- Design the validated data model for the pre-selected conservation areas in STP;
- Carry out pilot field surveys to ensure the data model responds to the pre-defined objectives;
- Customize data model per pre-defined categories, e.g. per island and/or per ecosystem (marine, terrestrial), according to pre-defined objectives;
- Set-up and configure add-ons based on recommendations (e.g. Ecological Surveys, SMART connect, Field Sensors) as well as SMART Collect for citizen science and community reporting.

### 2) Set-up SMART system – define/update monitoring protocols

- Install SMART tools in available equipment's of partner institutions and civil society and assess the need for material acquisition (e.g. for data storage);
- Develop/review data capture procedures, during marine and terrestrial patrols, according to pre-defined objectives;
- Develop a short practical manual summarising SMART protocols and software use for STP in Portuguese language.

3) Implementation of SMART system – capacity building for data collection

- Develop a continuous training program for all relevant actors to ensure proper implementation and long-term use, incl. civil society, government institutions technicians, forest users, fishermen, communities, eco-guides and visitors.
- Provide initial training according to the previous plan, for:
  - data capture procedures / patrols – for field technicians
  - data management, analysis, and reporting – for managers
- Draft a final mission report, including challenges, lessons learned, and including a quick analysis of the long-term sustainability of SMART implementation in STP (finance and continuous training needs, etc.).

**DELIVERABLES / RESULTS**

N	Deliverable	remote / presential	Timeframe (deadline) <sup>2</sup>
1	Opening workshops, led by the consultant, to gather data and formulate recommendations for the data model for ST terrestrial, and Principe marine and terrestrial ecosystems, based on stakeholders’ inputs (act of workshops, presence lists)	remote	July 2022
2	SMART Data Model for STP (data file .xml, data model description file)	remote	August 2022
3	Pilot SMART data collection protocols adapted to each conservation area and ecosystem	presential	August - September 2022
4	Installation of SMART tools on stakeholders’ equipment	presential	
5	Training Plan for each relevant actors and mandates (data collection, data management, reporting)	presential	
6	Initial training of ‘trainers’ for data collection (2 days, incl. 1 day in the field), analysis and reporting (1 day)	presential	
7	Final report highlighting challenges and lessons learned and including long-term viability assessment	remote	September 2022
8	Closing restitution workshop	remote	October 2022

**REQUIRED SKILLS AND EXPERIENCE**

We welcome applications from qualified organizations or individual consultants or teams of multiple consultants. The expected skills and experience from the lead consultant are the following:

*Academic qualification:*

Master’s degree or higher in conservation biology, informatics for ecology, geography, or any other relevant field; a relevant university degree in combination with qualifying experience in relevant areas, may be accepted in lieu of a degree.

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<sup>2</sup> *timeframe to be reviewed according to availabilities*

*Experience:*

- Minimum 5 years demonstrated experience in biodiversity and threats monitoring in protected areas, law enforcement and/or SMART monitoring systems,
- In-depth knowledge and practical experience with data collection and monitoring for biodiversity conservation and/or management purposes, of marine and/or terrestrial ecosystems using SMART tools,
- Experience in setting up data models/tools/software and monitoring equipment (phone, tablet, computers),
- Demonstrated experience in field monitoring practices and training for various audiences (from government to communities),
- Demonstrated experience working in developing country contexts, preferably in Africa. Experience in Small Island Developing States would be an asset,
- Knowledge of/ experience with protected areas planning and management,
- Experience working with diverse groups of stakeholders from communities to government representatives.

*Language skills:*

- Full professional proficiency in spoken and written English and working proficiency in Portuguese (or the other way round).

*Skills:*

- Ability to distil complex information from various sources into concise and clear communications.
- Good analytical capacity, and flexibility to adapt solutions to local context and challenges.
- Animation skills, prior experience in facilitating workshops and consultations processes of various audiences (government, civil society, communities)
- Excellent synthesis and report writing skills.

## **DUTY STATION AND DURATION OF ASSIGNMENT**

*Duration:* 20 to 30 working days over a two-month period, including at least one field trip to the islands of São Tomé and Príncipe.

*Duty station:* if not currently based in STP, the assignment will be home-based with at least 1 mission in the country; including a regional trip to Príncipe Island. This can be reviewed according to the offeror workplan and proposed methodology. In São Tomé, the consultant will be based at BirdLife International Office in São Tomé; and in Príncipe Island the consultant will be based at Fundação Príncipe's office in Santo Antonio.

## **MANAGEMENT AND INSTITUTIONAL ARRANGEMENTS**

The consultant shall report and work closely with the National SMART committee. The consultant may work independently and consult with key stakeholders in the project areas as appropriate. BirdLife International, Fundação Príncipe, and Fauna & Flora International will respectively offer logistical support for field visits and training in the island of Sao Tomé and the island of Príncipe. In general, the methodology is expected to be consultative with a good communication maintained between the consultant, experts, and stakeholders.

## **SUBMISSION OF PROPOSALS**

Qualified candidates must submit their application in English or Portuguese language to [saotomeprincipe@birdlife.org](mailto:saotomeprincipe@birdlife.org), including the following documents, before July 4<sup>th</sup>, 2022:

- Technical & Financial Proposal to implement the assignment, including timeframe and detailed costing per deliverable.
- Detailed Curriculum Vitae of expert(s) involved.

The above-mentioned documents, information and requirements are mandatory. Incomplete or non-fitting proposals will be rejected.

Candidates will be evaluated against the quality of their technical (35%) and financial (30%) proposal, as well as the experience of the individual or group of experts (35%).

Successful as well as unsuccessful bidders will be informed by e-mail as soon as possible after the submission date.