



# **Management Plan for the Praslin National Park**

## **2021 – 2025**



### **Consultancy Report**

**By Elvina Henriette, Rachel Bristol and Bruno Senterre**

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## **Foreward**

I am proud to present, The Praslin National Park management plan, which marks yet another milestone for Seychelles National Parks and Gardens Authority. Never before has there been a document, detailing the processes and steps that SPGA will take to ensure the sustainable management of Praslin National Park. This Management plan gives us the opportunity to show our strengths and short comings to the general public /stakeholders and also gives realistic solutions to solving the issues at hand.

The Praslin National Parks is a high biodiversity hot spot, hosting a diverse ecosystem of plants and animals, with unique habitats comprising of, but not limited to tropical rain forests, woodlands and open glaxis vegetation. It is for these reasons that we have to be extra careful not to further disrupt this precious ecosystem. It does not only provide a sanctuary for our endangered species, it also holds great educational, commercial and research potential. We are also excited to venture into new business opportunities, now that we have merged with the National Botanical Garden Foundation. This will help us to become more business savvy and find new ways to expand our commercial activities.

It is because of these vast arrays of environmental benefits, however that the Praslin National Park can be easily overexploited. It is true that SPGA faces a lot of challenges such as, lack of finance and human resources, poaching due to deficiency in the law enforcement system and invasive alien species amongst others. No matter, SPGA is committed and is renewing its pledge to protect this precious ecosystem, for the benefit of all. Staying focused on our mandate and conservation values, but also creating new commercial opportunities that will help SPGA expand its horizons.

Allen Cedras

**Chief Executive Officer**

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## **Executive summary**

The management plan was developed mainly through stakeholder engagement. Stakeholders were consulted through questionnaire surveys to capture their views, values of the park and what they perceived as issues, threats and opportunities. The results from stakeholder engagement were used to formulate the management objectives and strategies.

The management plan is structured into five parts. The first section is the ‘Purpose and Scope’ which describes the management plan, its application, its vision, authority responsible for its management and procedures for the development of the plan.

Section 2 ‘Introduction’ describes aspects of the national park and its management. It provides an understanding of the system to be managed including natural values, economic values, infrastructure and management organisation. In other words, it answers the following question ‘What have we got?’ It describes the location of the park, its values in terms of the features that attract people to the site, the authority managing the park in terms of its function, organizational and management structure. It also describes conservation and research gaps, types of people using the park (user groups), business opportunities within the park, issues and threats faced by the park.

Section 3 ‘Management objectives and strategies’ outlines and provides details of 13 management objectives for effective operation and management of the national park. These objectives, strategies and activities were derived from the stakeholder engagement and they set the direction in terms of ‘where we want to go?’ It lays out the context and sets out the objective in terms of what we want for the park; and provides several activities for implementation of each objective in terms of what we must do for the park.

Section 4 details the ‘Performance Measurement System (PMS)’ used to assess the implementation of the management plan. It includes indicators to assess the performance and achievement of each management objective and activity.

Section 5 ‘Costed plan of implementation’ provides details of the activities and their costs over the 5-year implementation timeframe of the management plan.

## **1. Purpose and scope of the management plan**

This section describes the management plan, its application, its vision, the authority responsible for its management and the procedures for the development of the plan.

### **1.1. Name of the plan**

This plan is the ‘Management Plan of the Praslin National Park 2021 – 2025’.

### **1.2. Application of the plan**

The plan is in accordance with the National Parks (Praslin) (Designation) Order 1979 under the National Parks and Nature Conservancy Act 1969 which describes the area designated as a national park. The area is 800 acres (see map Figure 1) and is represented on a plan deposited in the office of the Director of Surveys and filed as ML/ADN/32.

According to the schedule of the above designation order, the Praslin National Park comprises of the three following sections:

- (i) An area of 776.8 acres (314.36 ha), surveyed as parcel PR232 and registered in Register A.36 No.2440.
- (ii) An area of 17.6 acres (7.14 ha) surveyed as parcel PR4 and registered in Register A34 No.877. This area is completely surrounded by parcel PR232.
- (iii) That area of the Praslin trans-island road passing through parcel PR232, totaling 5.2 acres (2.1 ha) and being Domaine Public.

However, land parcels were resurveyed since the designation of the Praslin National Park (PNP) and today it consists of the following:

- (i) PR6776 totaling 293.24 ha
- (ii) PR4 totaling 7.14 ha
- (iii) PR1264 totaling 19.5 ha

### **1.3. Intent of the plan**

The plan is intended to guide the operation and management of the Praslin National Park (PNP) with the aim of protecting and conserving its values, developing sustainable financing activities to support effective park management, providing opportunities for local communities to become engaged in the management of the park, and making use of the area for sustainable forestry, eco-tourism, recreation, education and research. It is to be noted that the world heritage site Vallee de Mai and Fond Peper which are located within the boundaries of the PNP are managed by Seychelles Islands Foundation (SIF). This management plan is for the remainder of the park that is managed by SPGA.

### **1.4. Vision of the Praslin National Park**

The vision of the park is inspired from the vision of the Seychelles Parks and Gardens Authority (SPGA) strategic plan which is to ‘Ensure that the Praslin National Park is effectively managed through the sustainable utilisation of natural resources and tourism development, and to promote biodiversity conservation for the social and economic benefit of all’.

### **1.5. Preparation of the management plan**

A group of local consultants were contracted to produce the management plan. The team was composed by Dr. Elvina Henriette, Dr. Rachel Bristol and Dr. Bruno Senterre. The management plan was produced based on input from stakeholders. Initial meetings and interviews were done with SPGA staff to capture their views issues, concerns and contribution to the management plan. They also provided guidance in terms of the consultation process. Thereafter, consultation was done with the wider stakeholder groups. This consisted of previous members of the SPGA board, Government agencies, Parastatal and NGOs e.g. Department of Environment, Seychelles Fire Rescue Services Agency (SFRSA), Public Utility Corporation (PUC), Seychelles Island Foundation (SIF) and the Terrestrial Restoration Action Society of Seychelles (TRASS), committees like the Ecosystem-based Adaptation (EBA) Praslin Watershed Committee, timber and leaf merchants, tour guides, the Praslin Business Association, the Hotel and Tourism Association, water bottling company, residents living in and near the park, members of the local Government (DAs) and of Parliament (MNAs), project partners and researchers and many more. A total of 39 persons were consulted. The maps were produced by Dr. Senterre. A first draft of the plan was prepared and reviewed internally by the team of consultants, SPGA and the team from the GOS-UNDP-GEF Ecosystem-based Adaptation (EBA) project. Feedback from the first round of review were incorporated into a second draft which was circulated to the wider stakeholder group. All comments were then incorporated into the final management plan.

### **1.6. Implementation of the plan**

The plan will be implemented by the Seychelles Parks and Gardens Authority (SPGA) who has responsibility for managing the national park as mandated under Section 4 (1) of the Environment Protection (Seychelles Parks and Gardens Authority) Order (SI 30 of 2009).

The Chief Executive Officer (CEO) of SPGA, with guidance from the Board of Directors, will be responsible for the implementation of the management plan of Praslin National Park. The Fond Boffay office on Praslin, through the guidance of the head office will be responsible for onsite implementation of the management plan. The Fond Boffay office will report to the CEO.

Workplans (weekly/monthly/ annual) will be made to guide on the ground implementation by staff. Annual reports on the implementation of the plan based on the workplans made to guide on the ground implementation by staff as well as annual financial reports and audits will be prepared to assess the effectiveness of the implementation of the plan.

### **1.7. Review of the plan**

The plan will be reviewed at the end of each year based on the Performance Measurement System (PMS) detailed in section 4. The PMS lists the activities, targets, indicators to be used to assess performance, timeline and priority for each activity. The review should allow for any adaptive management strategies to be incorporated accordingly. The review of the plan should be completed and submitted to the SPGA's Board of Directors by the end of January of each year.

## 2. Introduction

This section describes aspects of the national park and its management. In other words, it answers the following question ‘What have we got?’ It describes the location of the park, its values in terms of the features that attract people to the site, the biodiversity and conservation values of the park, the authority managing the park in terms of its function, organizational and management structure. It also describes conservation and research gaps, types of people using the park (user groups), business opportunities within the park, issues and threats faced by the park.

### 2.1. Location of the Praslin National Park

The Praslin National Park (800 acres or 325 hectares) is situated in central to south-east Praslin and covers 9% of the island (Figure 1). It lies mainly in the Baie Sainte Anne district, but the south-western side extends into Grand Anse. The park encompasses the world heritage site Vallée de Mai. The main trans-island road crosses through the national park. The park boundary consists of a firebreak which surrounds the entire park to help protect it from forest fires (Figure 2).

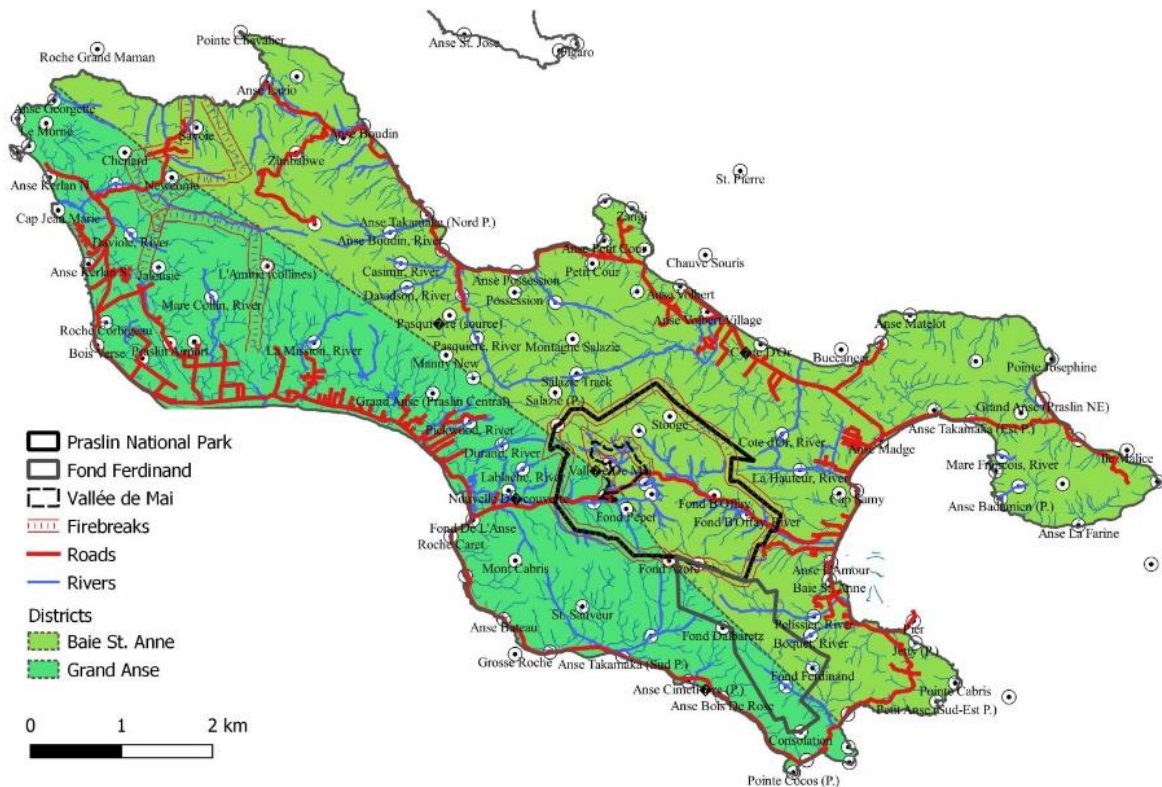


Figure 1: Location of the Praslin National Park. Map produced by Bruno Senterre.



## 2.2. Values of the Praslin National Park

The Praslin National Park has a lot of values but these are not well known and appreciated.

### 2.2.1. Natural value

A variety of features within the landscape form the natural values of the park. The ancient granite rock formations, forests, wetlands (several freshwater marshes and swamps), rivers, the famous waterfall, the water catchments of Fond Boffay and Nouvelle Decouverte (the largest water catchments on Praslin providing potable water to Praslinois, Figure 2) and the ecosystem goods and services provided to humans by the natural environment such as provisioning services in the form of production of food, water and construction materials; supporting services like oxygen production, carbon and nutrient cycling; and regulating services such as control of climate and diseases.

The ecosystem of the Praslin National Park is varied and consists of several types of habitats (Figure 3): tropical rain forests, natural rain forests, secondary forest and woodlands, riverine forest/forest in river valleys, open glaci vegetation, dwarf forest on glaci, rocky areas, degraded land with bare ground, shrubland (areas with trees less than 5 m high), freshwater marsh, swamps, rivers and waterfalls. Fond Azore is particularly interesting as it hosts the only part of the relict submontane forest on Praslin which is a refuge for several rare species (a forest type that is more extensive on Mahe and Silhouette). Unfortunately, the firebreak passes right through and fragments this important relict ecosystem.

### 2.2.2. Biodiversity value

The Praslin National Park has high biodiversity value (Figure 4) and hosts the main populations globally of several of the world's rarest species including the Seychelles Black parrot (*Coracopsis barklyi*), Sooglossid frog (*Sooglossus sechellensis*), Petit Praslin caecilian (*Hypogeophispti*), Giant geckos (*Ailuronyx trachygaster*), the famous Coco-de-Mer (*Lodoicea maldivica*) and a recently discovered new species of Bwa dou amongst others. According to the Key Biodiversity Area (KBA) studies undertaken since 2013, the park consists of 194 native species including 113 endemic species. 111 are 'KBA species' or species of high conservation value (i.e. a species of special conservation value in Seychelles), IUCN (global threat level), and 'rarity' (in Seychelles)).

Much of the park (apart from the Vallee de Mai and the area near the summit of Fond Azore) is underexplored, particularly the ridges of Mt Takamaka and the northern part of the park, and there are probably species that remain to be discovered or taxonomically redescribed. Available data show that the Vallee de Mai and the south of the national park have high numbers of species of high conservation value that are rare in Seychelles and/or classified as threatened on the IUCN Red List d (Figure 4). Even for those species that do feature in the current inventory of the park, the distribution and natural history of many of them remains little studied and/or poorly understood.

In addition, there are rare and threatened ecosystems through much of the park. Threatened ecosystems have been defined according to IUCN Red List standards: Critically Endangered (CR), Endangered (EN) or Vulnerable (VU). In addition to their threat level, their state of development or degradation is also mapped ("natural", semi-natural" and "secondary"), which allows visualizing potential sites for rehabilitation of those threatened ecosystems.

The most important ecosystem-type are mainly natural (in the sense that the area is thought to have never been cleared, cut or burnt, or intensively planted with species not occurring naturally in those

places or places with very little human disturbance) and these are located within the Vallee de Mai and the southern side of the park in the Fond Azore area. The Fond Pepper area is also an important zone with semi-natural and natural forests such as the Palmist (*Deckenia nobilis*) forests on the dry, rocky areas. There is a need to obtain more data on the ecosystems and the plant and animal species of the park to know more precisely the spatial patterns of those biodiversity values.

### **2.2.3. Cultural value**

The park certainly has a human history and it is culturally important particularly in the Art arena as an inspiration for artists, and a sense of pride for Seychellois. Information on the cultural value for the people needs to be further researched.

### **2.2.4. Economic value and sustainable resource use**

Perhaps one of the most important values of the park, is in terms of sustaining the future operation of SPGA and generating benefits for the surrounding communities from the biodiversity and natural values. The economic value is particularly apparent in the tourism department where Praslin businesses, hotels, tour guides, taxi drivers and the Seychelles Island Foundation managing the Vallee de Mai generate significant revenues. In addition, forestry products such as timber, palm leaves, Coco-de-mer nuts are highly valued and provide a source of income to the users. Forestry species that are currently being exploited are timber species like Mahogany (*Khaya senegalensis*, *Swietenia macrophylla* and *S. mahagoni*), Santol (*Sandoricumkoetjape*), Kalisdipap (*Tabebuia pallida*), Albizya (*Falcatariamoluccana*), Tek (*Tectona grandis*), Bwa zonn (*Alstonia macrophylla*), Bwa nwanr (*Albizia lebeck*), Jackfruit (*Artocarpus heterophyllus*), Lila (*Melia dubia*), and native species such as Takamaka (*Calophylluminophyllum*) and Bodanmyen (*Terminalia catappa*). Other species are used for their leaves and branches like Lantanyen fey (*Phoenicophoriumborsigianum*), Raffia (*Raphia farinifera*) and Vakwa (*Pandanus utilis*) and the Coco-de-mer (*Lodoiceamaldivica*) for its nuts and leaves. The assets and or values of the park are important in supporting economic activities and local livelihood.

### **2.2.5. Educational value**

The Praslin National Park provides the perfect outdoor school for education and awareness. It is currently being used by schools as a tool for exploration and understanding the natural world. There is a lot of scope to strengthen the use of the park for education and awareness.

### **2.2.6. Scientific (research) value**

Considering the biodiversity importance of the park and the fact that it is underexplored, there are a lot of opportunities for research and exploration. Most research has been undertaken in the Vallee de Mai which is greatly visited by researchers, but a lot of research remains to be done in the rest of the park (see section 2.5 below).

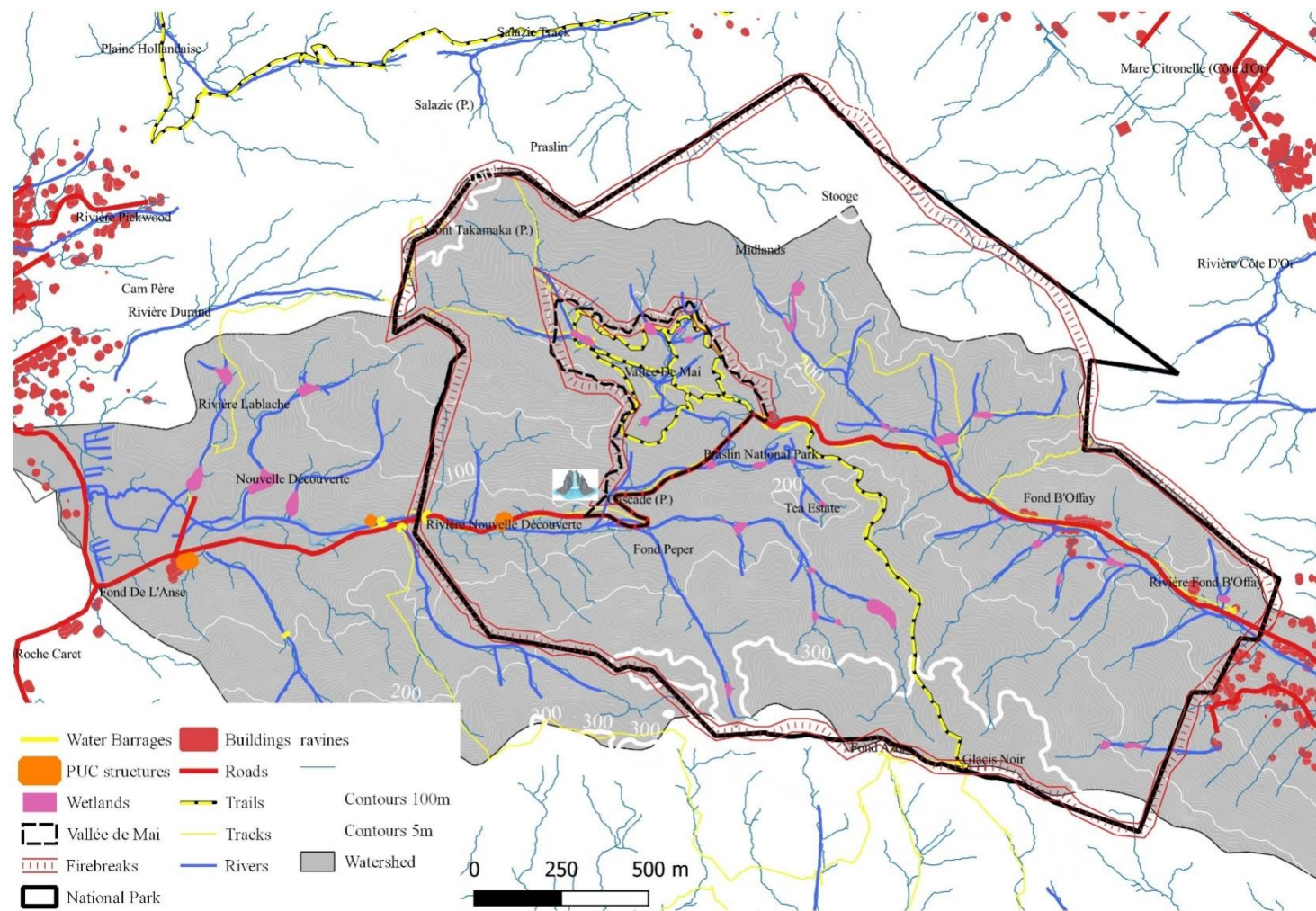


Figure 2: Natural features of the Praslin National Park (water catchments in grey, river network in blue, waterfall and wetlands in pink). The main trail of Glacis Noir and the circular trails of the Vallée de Mai are in yellow-black. Map produced by Bruno Senterre.



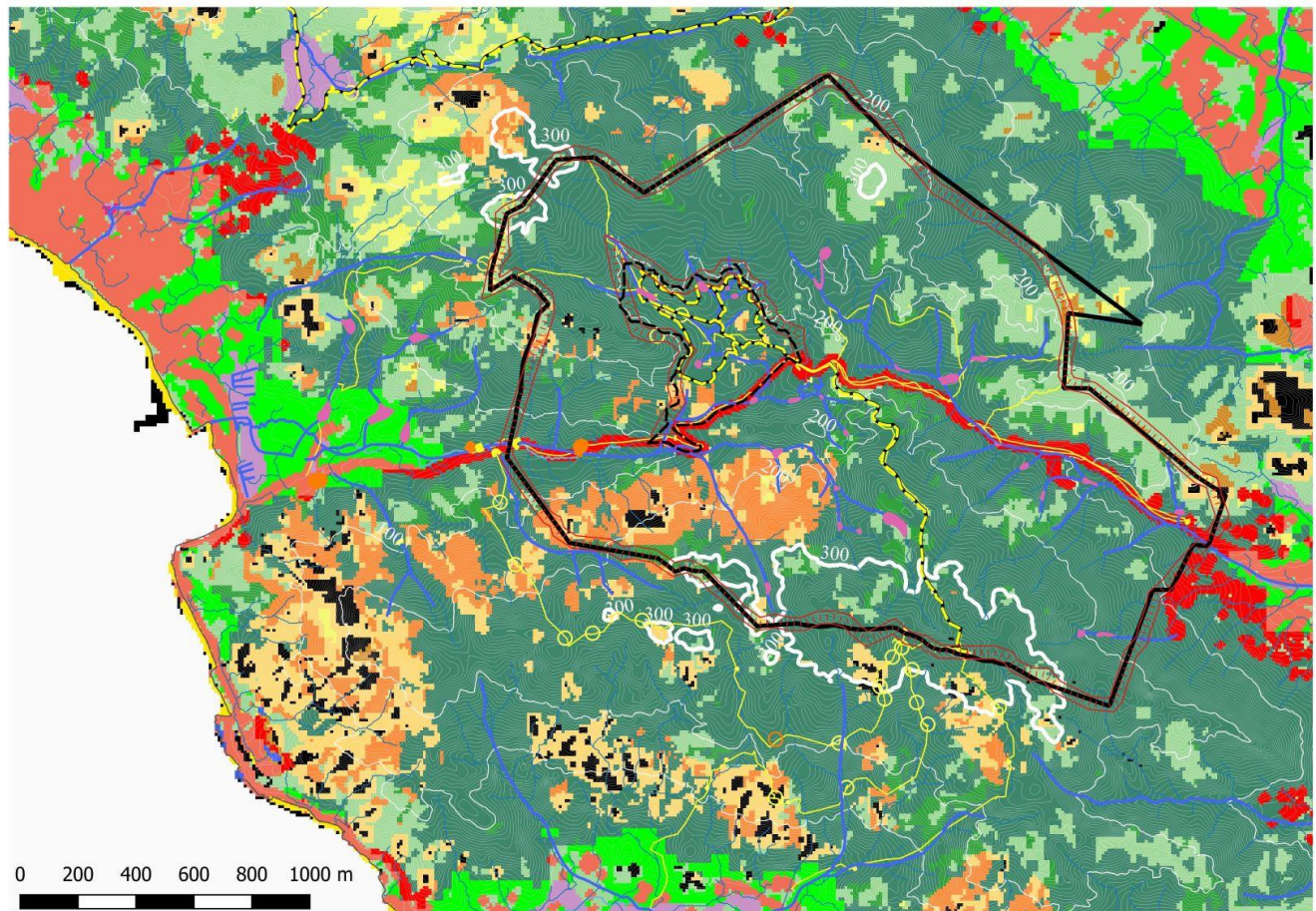


Figure 3: Habitat-types (ecosystems) of the Praslin National Park. Map produced by Bruno Senterre



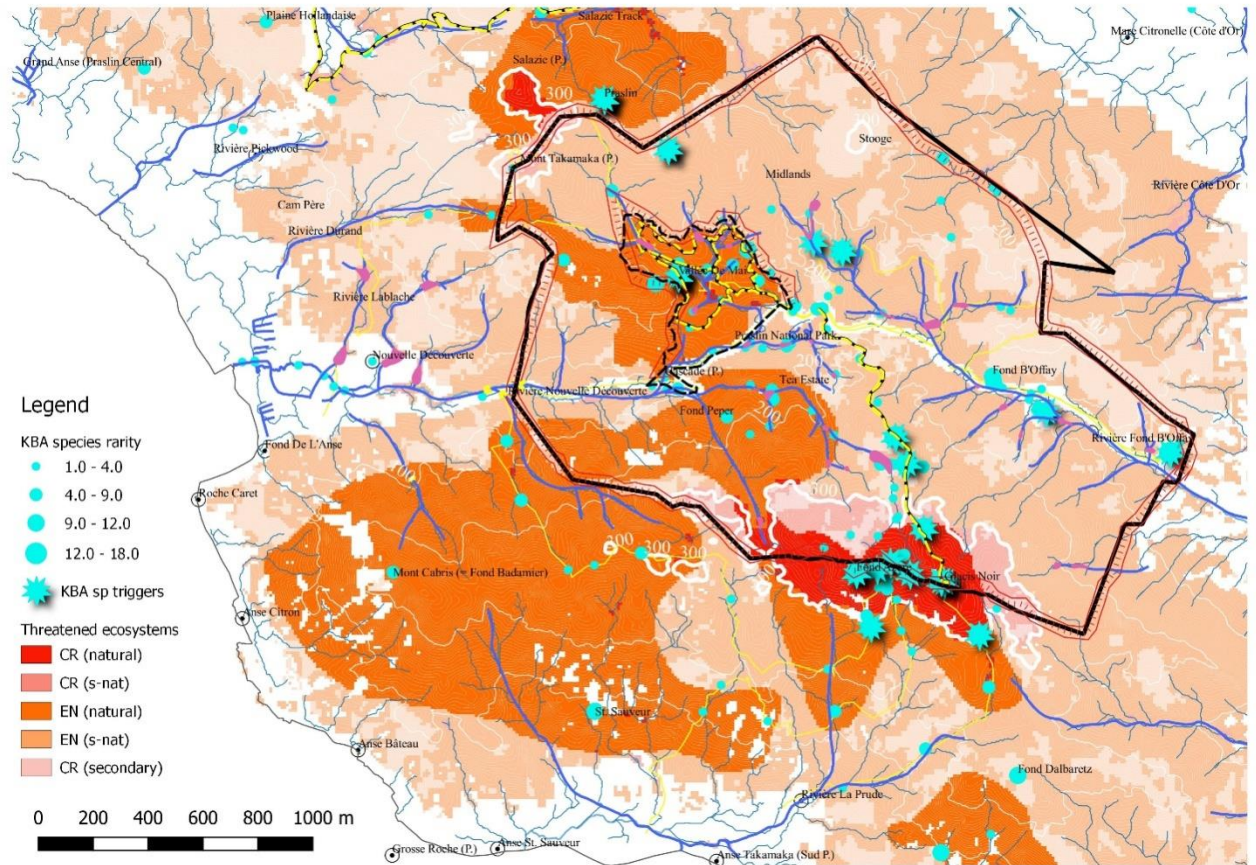


Figure 4: Important ecosystems and species of special conservation value. Key Biodiversity Area species (KBA) are species that have high conservation value (i.e. a species of special conservation value in Seychelles), IUCN (global threat level), and 'rarity' (in Seychelles). The Species Conservation Value is based on a combination of the following attributes: endemic/native/exotic (endemic species receiving the highest score and exotic species scoring '0'). 'KBA species rarity' integrates national threat levels (mostly defined based on geographic distribution) by combining the status of 'KBA species', which is defined by an IUCN threat level assessment at the national scale, and a quantitative index of rarity based on Area Of Occurrence and range-size rarity. Thus, the highest score is for endemic (2) \* kba (1) \* globally CR (3) \* rarity score 'R' (3) = 18. Hence, the higher the score, the higher is the presence of rare species. The threatened ecosystems are classified as Critical (CR) and Endangered (EN) according to IUCN Red List standards, and consist of secondary, semi-natural and natural forests. Map produced by Bruno Senterre.

### 2.3. Management and organisational infrastructure of the park

The protected areas that are under the mandate of SPGA are managed by the Forestry and National Parks section. The main functions of the Forestry and National Parks is listed below.

Table 1: The main functions of the Forestry and National Parks

Actors	Tasks
Forestry and National Parks	<ul style="list-style-type: none"><li>- Maintenance and allocation of timber plantations</li><li>- Maintenance of existing trails and national park infrastructure</li><li>- Diagnosis and treatment of tree pests and diseases</li><li>- Management of firebreaks</li><li>- Management of the plant nursery</li><li>- Management of invasive plants and rehabilitation of native species</li><li>- Implement management plans</li><li>- Assistance to research work</li><li>- Visitor information and assistance</li><li>- Support to educational awareness programmes</li></ul>
National Park Unit Praslin	<ul style="list-style-type: none"><li>- Conservation and management of the Coco de mer</li><li>- Development and maintenance of ecotourism trails and its infrastructures</li><li>- Monitoring of flora and fauna in the park</li><li>- Protection of water catchments</li><li>- Rehabilitation of degraded areas within the park</li><li>- Participate in research programs</li></ul>
Forestry Unit Praslin	<ul style="list-style-type: none"><li>- Maintenance of firebreaks including clearing of access paths</li><li>- Collection of Coco-de-mer</li><li>- Processing permissions for timber and leaf harvesting</li><li>- Supervision of timber and leaf harvesting</li><li>- Plant propagation especially commercial plants</li><li>- Reforestation</li><li>- Removal of invasive species at Midland and Fond-Boffay</li><li>- Monitoring of plantations - success rate and maintenance e.g. thinning</li><li>- Patrolling and enforcement</li><li>- Assist visiting scientists</li><li>- Assist maintenance group on Curieuse with replanting and trail maintenance</li></ul>

The Forestry and National Parks office at Fond Boffay, Praslin contains a National Park Unit with 3 staff and 1 vacant post, a Forestry Unit with 12 staff, and 3 support staff totaling 18 staff on Praslin (Table 2).

Table 2: Human resource for the management of the Praslin National Park

<b>CEO</b>	
<b>National Park</b>	<b>Forestry</b>
Park Officer – HQ, Mahe	Assistant Forestry Officer – Mahe office
Park Ranger G1 – Praslin office • 1x Park Ranger G2 - Mahe office • 2x	Assistant Forestry Officer - Praslin office • 1x
	Park Ranger G1- Praslin office • 1x Park Ranger G2- Praslin office • 1x
	Chainsaw Operator- Praslin office • 1x
	Tree Lopper - Praslin office • 1x
Forestry Staff – Praslin office • 2x	Forestry Staff- Praslin office • 7x
<b>Support staff</b> • 1x Driver/messenger • 1x Admin Assistance • 1x Maintenance Technician	<b>Overall positions (Mahe + Praslin)</b> Total number of positions = 21 Total number of positions occupied = 20 Total number FROZEN = 0 Total number of position Vacant = 1

The office is located within the national park at Fond Boffay. In addition to the office there are 5 stores (chemical, Coco-de-mer, fire equipment, maintenance equipment, general store for other equipment) and a Covid-room. There is 1 small office at Newcome field station including a small store. There is one nursery at Fond Boffay (12.3 m by 5.8 m) with capacity to produce 10,000 plants annually. For the moment the nursery is sufficient for SPGA but there is a need to maintain the infrastructure. The nursery is used mainly to produce commercial species to replant in the plantations. There is also a small nursery ca. 20 m<sup>2</sup> at Newcome forestry station at Mont Plaisir (outside of the national park and used mainly for production of native species for rehabilitation purposes). In terms of transport, there is 1 bus and 1 truck but there is a need to purchase another truck. The staff are equipped with some of the necessary equipment to undertake current duties but they have also identified some other essential equipment that are necessary to have for the effective management of the park and especially in the case of a forest fire (Annex 2). Regular inventory is done to keep track of the number and state of equipment and office furniture needed for the management of the park.

#### 2.4. Stakeholders, user groups and types of activities

The main stakeholders are also the main user groups of the national park (Table 3). Not all stakeholders directly use the resources of the park but the ones that rely on the national park, use mainly the natural aspects and biodiversity as part of tourism (tour guiding, nature trails etc), water extraction for potable water by PUC, SIF and the Nouvelle Decouverte water bottling company as well as residents living in and near the park, water extraction for agricultural use by the Seychelles

Agricultural Agency (SAA) and farmers, timber and leaf merchants are using commercial trees and palm leaves respectively. Few people use it for fitness and relaxation. SIF and the schools use it for education purposes. However, most of these uses were happening in the Vallee de Mai except for harvesting of forest resources and water extraction. The use of resources contributes partially or entirely to users' income.

Table 3: The main user groups and types of activities within the Praslin National Park

User groups	Types of activities
Timber Merchants	Harvest/buy timber wood
Leaf Merchants	Harvest/buy palm leaves
Tour guides	Conducts tours mainly in the Vallee de Mai
Local communities (residents, students from Kindergarten to University)	Hiking on Glacis Noir trail, educational programmes on trails and in the Vallee de Mai
Water users (PUC, Nouvelle Decouverte Water bottling company, SIF, Seychelles Agricultural Agency, residents)	Extract and use river water
Conservationist (SPGA, SIF, TRASS, Praslin Watershed Committee)	SPGA manages the national park, SIF manages and protects Vallee de Mai (commercial and conservation activities). TRASS and Praslin Watershed Committee rehabilitates degraded ecosystems.
Forest fire fighters	The Seychelles Fire and Rescue Service Agency (SFRSA) is involved as a forest fire fighting mitigation measure and together with TRASS and the Praslin Watershed Committee they rehabilitated post-fire degraded land
Cable and Wireless	Communication network tower based at Glacis Noir
Researchers	Conducts research in the park

## 2.5. Conservation efforts, research and knowledge gaps

Currently, there is no research unit on Praslin and no research is being undertaken by SPGA. But SPGA undertakes joint activities with SIF such as the control of the Yellow crazy ant and they also assist visiting scientists/researchers. SPGA also shares information on poaching with SIF. Most of the research and monitoring being undertaken in the national park is by SIF. SIF undertakes the following:

- Phenology monitoring of food species for black parrots
- Coco-de-mer regeneration scheme
- Black parrot breeding programme and population monitoring including sightings
- Invasive species project (tenrecs, rats, yellow crazy ants, invasive plants)
- Skink and crab monitoring in relation to the impact of Yellow crazy ants
- Sooglossid frog monitoring using sound meters
- Analysis of Education and Awareness effectiveness in terms of the number of people that are impacted by SIF sensitization programmes
- Tourism monitoring



- Herpetofauna (amphibian and reptile) monitoring and research
- Coco-de-mer genetic research

Considering, the great value of the national park there is a need for SPGA to have a research unit or at least a research staff based on Praslin but managed by the Research Officer on Mahe, to conduct research and monitoring activities perhaps alongside SIF and other relevant organisations (see management objectives in section 3).

There are currently huge gaps in research. Some taxonomic work is needed on the flora of Praslin, which has been neglected in the past. In terms of flora, experts at the National Herbarium have suggested the need for a taxonomic revision of Bwa koulev (*Psychotriadupontiae*) which might be a distinct species from the ones on Mahe and Silhouette. Other plant species that might be worth looking into include Lafisel mov (*Seychellaria*), Arouroute de l'Inde (*Protarumsechellarum*), Bwa kato (*Brexiamicrocarpa*), an unidentified *Cynorkis* (orchid) at Fond Azore and the genus *Antrophyum* (fern). The national park (apart from the Vallee de Mai) remains underexplored particularly the areas around Mt Takamaka and the northern slopes of the park. There is a need for exploration trips by a multidisciplinary team focusing on plants, reptiles, amphibians, fungus, lichens, invertebrates (most importantly dry zone species). Outside of the Vallee de Mai, there are virtually no data on invasive species distribution within the park and even on the entire Praslin Island.

Ecosystem ground data are totally lacking and more data is needed on the distribution of ecosystems especially 'native dominated' stands. Considering that clearly some threatened ecosystems are important triggers to the status of the Praslin National Park as a "global KBA", there is a need to improve the mapping of those ecosystems and to monitor their extent and biotic integrity in the long term. The wetlands also need to be looked at more carefully (31 upland wetlands were recently discovered and mapped during the GOS-UNDP-GEF project) and search for rare native species or species presumed to be extinct e.g. *Potamogeton*, an aquatic plant. Previously, data were limited by the lack of appropriate tools. But during the past few years there has been some interesting developments in data collection tools particularly using powerful phone applications for biodiversity inventories and data collection on the characteristics of ecosystems.

## **2.6. Business opportunities by local communities**

Stakeholders contributed various opportunities for business within the park which will not only provide benefits to the private sector and the local communities but which will self-finance the management of the park:

### **2.6.1. Sustainable forestry**

Sustainable forestry is currently being practiced in the national park but there is more scope to make it more effective and profitable. Currently there is no zoning in the park but one should be developed as part of this management plan, which would include a 'sustainable resource use zone' where SPGA and the communities could be more involved in forestry activities. Types of activities and products include commercial trees that are already being harvested like mentioned above (section 2.2.4). Other species can also be exploited such as Cinnamon (*Cinnamomum verum*, where they exist), Bamboo (*Bambusa spp.*) and fruit trees. Native species that formed the native forests of the national park and that can be (and were in the past) used for forestry include Bwa-d-nat (*Mimusopssechellarum*), Bwa gayak (*Intsiabijuga*), Bwa mon per (*Planchonellaobovata*), Lagati (*Adenantherapavonina*), Kapisen (*Northeaseychellana*), Bwa-d-tab (*Heritiera littoralis*) and Takamaka.

There will be a need for identification of sites for replanting including zoning e.g. a zone for each type of product or mix plantations, conduct replanting, manage the plantation, harvest and replant immediately. One promising industry is bamboo-based forestry (B. Senterre, *personal observation*). Institutions and individuals partnering in this could form a small cooperative. A productive system of a few tens of hectares of mixed bamboo forests could be the source of much more secondary benefits such as:

- construction materials even for durable luxury buildings like it is being done in Bali, Indonesia
- local furniture like cabinets, sofa making etc like it is being done in South-east Asia (this will reduce on importation of low quality but highly priced commodities and reduce the carbon footprint)
- alternative material for Fish Aggregating Devices where there is a huge need for this in Seychelles, far more than can be supplied by existing bamboo stands
- compost making in the understory of bamboo forests which can be used in agriculture and restoration planting - more productive without need for fertilizers and pesticides
- climate change mitigation and related access to international funding. The Seychelles are small island states and climate change is a real threat. Research in the last decade has shown that bamboo can fix  $15.5 \text{ t ha}^{-1} \text{ yr}^{-1}$  of carbon, i.e. 50% more carbon than the fastest growing tree species.
- and especially a kind of forestry that is compatible with human resources and material available in Seychelles for timber extraction. No heavy material is needed for bamboo extraction (avoiding soil compaction issues and invasive species threats associated with timber felling and extraction). Bamboo can be exploited without ever needing to open the canopy.

#### 2.6.2. Nature trails and tour guiding

Currently there is only one official nature trail 'Glacis Noir' maintained by SPGA. Respondents felt that the Glacis Noir trail should be better maintained. The poor maintenance of the access path and drains leads to significant erosion of the trail and to a major landslide in 2014. The paths should be made safer and rails should be placed in those steep slippery areas, and the kiosk at the view point could be upgraded. SPGA already has plans to raise the standard of Glacis Noir trail by improving the path, kiosk, put benches, a ticket office and possibly a toilet and rehabilitate the Glacis Noir marsh etc. One stakeholder felt that catering services could be provided through a small low key local catering facility offering refreshments like local juices and local food. This initiative could be operated by a local operator with products bought from local farmers and residents.

Other trails should be opened to provide users with more choices. SPGA currently have a network of paths that provide access to the firebreaks and some of these could be turned into trails. Signage and information boards should be placed on the trail to draw users' attention to important features on the trail. There is certainly an opportunity to develop and conduct specialized nature tours for nature enthusiasts.

Some of the least biodiversity sensitive landscapes of the National Park could also be used to develop cycling trails, which could also bring along a series of secondary opportunities (e.g. renting bicycles).

#### 2.6.3. Merchandising nature

There are opportunities to merchandise nature through creation of artisanal products and souvenirs which can be sold to clients. In addition, this will be an avenue to promote the park and its assets. Products like t-shirts, hats, caps, bags, slippers, pareo, key-rings, videos, artwork, books, Coco-de-Mer etc could be produced. Different assets of the park e.g. its biodiversity and landscapes (animals, plants, rivers, waterfalls, wetlands, forests, mountains etc), could be used on these merchandise. It is important to identify the different assets that can be sold and sell them.

Considering the flow of visitors to the park and the need for information, there is certainly a need to publish field guides that can be used for nature tours, education and research.

If the bamboo-based forestry idea is considered seriously, there are also possibilities for development of training modules for locals and tourists, e.g. on building artisanal handicrafts or basic techniques. This is also a sector of activities that flourishing in countries having developed their bamboo industry such as Costa Rica (for tourism market from the USA mostly) and places such as Bali in South-East Asia.

One respondent proposed that the Coco-de-mer should be sold from Praslin only and make people travel to Praslin to buy. This initiative would give Praslin a more unique appearance thus increasing the clientele to Praslin which would benefit a whole range of partners/operators (travel agents, ferries, boat, Seypec, taxi, traders etc – all entities in the chain benefit).

#### 2.6.4. Biodegradable rubbish/litter bags

Littering was identified as one of the major issues of the park. One business idea proposed was the selling of a biodegradable rubbish/litter bags (with SPGA logo on them) that will be obligatory for users on nature trails to buy. This will be a way to make a profit on littering and hence convert the problem into a benefit.

#### 2.6.5. Levy on the commercial use of water resources

Some respondents particularly SPGA staff felt that a levy should be placed on commercial water extraction. SPGA is protecting the park and all of its resources including water, which benefits users who in turn should contribute financially to this protection.

#### 2.6.6. Marketing of products

The national park is in itself a product that hotels and other business can use to attract clients to their establishment, premisses or the island. For instance, some operators already use the presence of the Vallee de Mai, Fond Ferdinand and Curieuse to attract clients and keep them on Praslin. Hence clients can increase their length of stay and spend more thus benefiting different sectors.

#### 2.6.7. Field studies and research opportunities

Considering its values and importance, the park can be used as a magnet to lure in overseas students and researchers to conduct field studies where they contribute to a study/research fee. The fee can be used to support conservation activities within the park.

#### 2.6.8. Use of biomass to generate energy

There may be potential to explore biofuel especially from invasive plant species. The use of biomass to generate energy may reduce energy consumption from PUC and hence reduce operational cost of

SPGA. This option will have to be further researched based on similar examples from other countries like Japan.

## 2.7. Issues and threats

The main issues identified by the stakeholders during the preparation of the management plan are as follows:

- a. Undervaluing the park by the community at different levels – national and community level. People do not sufficiently value the park and hence may not find the need for them to contribute actively to its protection
- b. Poor management – Managers lack the skills and resources to manage the park effectively resulting in inadequate management. Sustainable use of resources needs to be strengthened. Too much emphasis on cleaning and maintenance and not enough efforts on developing other aspects of the park like sustainable forestry, patrolling and law enforcement, monitoring and research.
- c. Inadequate infrastructure – SPGA identified the need to upgrade their infrastructure, transport, materials and equipment. An attractive reception or visitor centre near the road with safe and adequate parking for clients was identified as a need to better market the values of the park.
- d. A lack of law enforcement in addition to patrolling are also threats
- e. Poaching of Coco-de-mer
- f. Damages / vandalism done to Coco-de-mer and other plants when poaching (immature nuts left on the ground, stems are cut for ‘golet’ to access nuts etc)
- g. Wildlife trafficking e.g. giant gecko, chameleon
- h. Illegal felling of commercial trees
- i. Invasive alien species (IAS) and biosecurity measures
- j. Forest fires. Cigarette ends pose a major threat. Uncontrolled access can also lead to fires
- k. Lack of research and monitoring that feeds into and guides management actions
- l. Potential pollution of water resources and the general environment through human activities on trails and the main road
- m. Climate change and its impact on biodiversity. Moreover, there is not much good baseline weather data for Praslin to assess impact of climate change.
- n. Impact on nature from large visitor groups during cruise ship season. But there are also impacts caused by smaller groups or individuals who are unsupervised
- o. Unqualified tour guides who do not pass the appropriate information to clients.
- p. Lack of dissemination of updated information to stakeholders particularly tour guides.

There were also some solutions that were proposed by stakeholders and these are integrated into the management objectives of section 3.

Other suggestions were raised during the wider consultations and these are briefly captured below.

**a. Collection of water**

A lot of residents are under the impression that the area where people collect water just after the PUC pump on the way to Grand Anse falls within the national park and there were suggestions to improve the area for users including safe parking. The location that is being referred to is however outside the Praslin National Park Boundary and in addition it is a private property belonging to the Albert family. The Albert family will have to be consulted for that purpose.

**b. Bus Park and Decking to Waterfall**

The proposal is to create parking spaces for buses and a decking to the waterfall for visitors, which will be another source of revenue. The proposal has merit but to implement the proposal, the habitat and endemic tree species listed in the IUCN Red List of Threaten species would be significantly impacted. At the recommended site for the proposed deck, juvenile coco de mer palms are growing in the immediate vicinity that over time could affect the proposed decking unless they are completely removed. Otherwise, they will cause an obstruction and potential damage to the deck, in addition to some other endemic plants like *Pandanus* and palms also listed in the above-mentioned Red List, which are also already blocking the view.

Furthermore, PUC is collecting water right next to the proposed area. The water collected by PUC supplies the Grand Anse Praslin community for domestic consumption and the agricultural community for their farming purposes. Consequently, further consultation with PUC, the Grand Anse Praslin community and the watershed committee are required, since impacts by the people visiting the waterfall need to be expected and might pose or increase the risk of pollution and contamination in this area, and therefore, for any of the aforesaid water usage and consumption.

Based on the above-mentioned issues, it is recommended that this proposal is approached cautiously and that all relevant stakeholders are consulted before finalizing a decision.

**c. Road Diversion**

The proposal was to divert the existing road running along the Vallee de Mai, to its original proposed location. This proposal needs to be considered in consultation with the Seychelles Land and Transport Department prior determining the environmental impacts.

A cost and benefit analysis will have to be carried out to establish the feasibility of the proposed road diversion. Due to the nature of the valley, it is assumed that the new proposed road may be substantially steeper than the existing one and would cut through the valley of Fond Peper involving considerable road engineering e.g. bolder cutting and removal as well as addressing underground waterflow of changing water level requiring a substantial budget. Most importantly, the road would also cut through a key biodiversity area (Senterre et al 2013) hence having major impact onto rare endemics and habitats. Further advice will have to be sourced from other stakeholders involved or impacted by this proposal.

### **3. Praslin National Park Management Objectives and Strategies**

Section 3 outlines and provide details of 13 management objectives and related strategies/activities to address the issues identified in the stakeholder consultations for effective operation and management of the national park. This section sets the objectives in terms of what we want for the park; and provides several activities for implementation of each objective in terms of what we must do for the park. The management objectives are detailed below.

#### **3.1. Protected areas legislation and policy**

The Praslin National Park was declared under the *National Parks and Nature Conservancy Act 1969*. No regulations were created to regulate the management of the park. In 2013, the Seychelles Protected Area policy was proposed for the development of a new protected areas legislation to replace legislations and regulations pertaining to management of protected areas. This will be the 'Nature Reserves and Conservancy Bill' which will include five new protected area categories and which will allow zoning through regulations. One of the first regulations to be gazetted will be the zoning plan. The zoning plan will be included in the management plan and the regulations would make mention that enforcement as per the zoning plan. This would allow for the zoning plan to be revised without having to change the regulations.

##### **3.1.1. Management objective**

Establish relevant legal framework to support management of the park.

##### **3.1.2. Strategies**

- i. To ensure that the protected area is designated as a 'National Park' under the new 'Nature Reserves and Conservancy Bill'. The strategy will be executed through the following activities:
  - a. Staff to review the bill, provide comments and ensure that pertinent aspects are included into the final bill,
  - b. Prepare regulations for the park such as zonation scheme for the park (see ii.b. below), channeling of revenue from law enforcement (e.g. fines) to SPGA and new regulation for law enforcement with higher penalties.
- ii. To propose and implement a zoning scheme for the national park, which will include the following zones – conservation, sustainable resource use, rehabilitation, tourism and recreation, and a buffer zone which can be a 'soft' forestry production area. The zoning can be developed either as a regulation under the law or as a policy within SPGA:
  - a. Develop terms of reference, identify and contract a consultant to undertake the zoning of the park,
  - b. Consultant to produce a report with the zoning scheme and maps,
  - c. SPGA to incorporate the new zoning plan into the management plan and regulations (see i.b above).

#### **3.2. Financial management**



There is a lack of financial resources to fund the operation and management of the national park. There are however, opportunities for sustainable self-financing of the park. Conservation and sustainable use programmes should bring short to long-term revenue which can fund the operation and management of the park as well as provide financial benefits to communities which are engaged in community-based management of the national park. Activities such as creation of new trails, trail enhancement, tour guiding, merchandising nature and forestry could be explored for revenue generation. Forestry is addressed in section 3.5.

### **3.2.1. Management objective**

Establish relevant financial framework to support management of the park.

### **3.2.2. Strategies**

- i. To develop and implement a sustainable financial management system (business plan) for the national park where budget is assigned to management actions and regularly reviewed
  - a. Develop terms of reference, identify and contract a consultant to develop the business plan,
  - b. Consultant to produce a report including the business plan.
- ii. To develop and implement a nature-based tourism plan to generate revenue for the park and to provide visitors with access and a diversity of experience through high quality and unique environmental assets. This may include activities like merchandising biodiversity of the park, nature trail enhancement and creation of new ones and a marketing plan:
  - a. Develop terms of reference, identify and contract a consultant to undertake a nature-based tourism plan,
  - b. Consultant to produce a report including a nature-based tourism plan,
  - c. Consultant to prepare a list of services/activities/products available to visitors in the PNP and integrate it into the nature-based tourism plan,
  - d. Consultant to develop a marketing plan to market/promote nature-based tourism. This can be integrated into the nature-based tourism plan,
  - e. SPGA to start implementation of the nature-based tourism plan,
  - f. Work with the Department of Tourism, Destination Management Companies (DMCs) and other businesses to advertise the park,
  - g. Produce or contribute to promotional materials like those commissioned by STB,
  - h. Introduce visitor fees for the Glacis Noir trail (after the trail has been enhanced as per section 3.4),
  - i. As part of the nature-based tourism plan work with businesses to produce merchandise that promote nature (field guides, souvenirs, crafts, paintings, t-shirts etc),
  - j. As part of the nature-based tourism plan open up new trails for hiking, cycling, fitness etc,
  - k. As part of the nature-based tourism plan collect revenues for the management of the PNP.
- iii. To apply for external funding grants which are invested into management plan priorities:

- a. Search for external donors to fund projects as part of the management of the park,
  - b. Prepare project proposals in line with management priorities,
  - c. Implement donor funded projects as per the management plan priorities.
- iv. To explore ways that commercial water extraction can financially contribute to the protection of water catchments. This should not apply to non-commercial public use of water as there is already an environmental charge on water bills:
  - a. Undertake discussions with businesses on financial contributions from commercial water extractions,
  - b. Collect financial contributions from commercial water extraction.

### **3.3. Human resource management and capacity building**

The current human resource level is inadequate for effective management of the park. There is a strong need to strengthen leadership and management, in addition to reviewing SPGA management and staff requirements, financial packages (the latter was identified as a barrier to attracting and retaining good staff in the SPGA strategic plan). There is also a need to recruit qualified, skilled staff with higher level of education such as in BSc, MSc or even in PhD in biology, ecology, forestry, environmental management or relevant fields. Most importantly, tracking of implementation of tasks and monitoring of performance indicators are vital to evaluate the overall performance of the management plan and leadership. SPGA already has a tool ‘General output index’ with defined benchmark which keep track of staff performance followed by a feedback report to staff on their monthly performance but this needs to be done at all staff levels.

#### **3.3.1. Management objective**

Establish relevant human and infrastructure resource frameworks to support management of the park.

#### **3.3.2. Strategies**

- i. To review staffing levels and requirements for effective and efficient management of the park. Staffing should take into account the right level of academic qualifications and field experience. The following will be undertaken:
  - a. The Human Resource department with the assistance of an external evaluator to review management structure and staffing (level of education/experience, staffing requirements and financial packages),
- ii. To train, build capacity and develop competencies of staff in various core areas. This will be done through the following activities:
  - a. The Human Resource department to undertake a staff training needs assessment and prioritize training needs,
  - b. The Human Resource department to prepare an annual training programme,
  - c. Organise joint training sessions with other similar organisations.
- iii. To implement planning tools for effective and efficient daily management of the park. This will be undertaken by the Human Resource department with the assistance of an external consultant to introduce planning tools such as workplans to track and quantify implementation of tasks, to monitor performance indicators and to communicate these in a transparent manner in real time i.e. monthly or at least annually.
  - a. Establish clear and concise annual workplans which are translated into quarterly, monthly and weekly workplans,
  - b. Review workplans every quarter to ensure achievements of all outputs
  - c. Develop and implement an overall leadership index of performance to assess senior staff (CEO and Directors) performance in delivery of tasks,
  - d. Develop and implement an overall staff output index of performance to assess staff performance in delivery of tasks,

- e. With the assistance of external trainers provide trainings to staff for the use of planning and management tools like Asana and Instagantt to better plan daily work duties and to report on performance indicators.
- iv. To establish joint work programmes with other organisations particularly where staff or skills are limited:
  - a. Establish partnerships with other organisations, plan and undertake joint work programmes.

### **3.4. Infrastructure management**

The Fond Boffay office located within the national park has 5 stores, 2 nurseries (1 at Newcome) and transport for the operation of the park (see section 2.3 for more details). There is a need to improve the infrastructure especially the nursery. The Fond Boffay nursery according to long services employees were built in the 1980's and later in 1997- 1999 it was enhanced into a steel structure and equipped. The nursery can accommodate a total of 10,000 plants and it is adequate for the current needs of SPGA but it needs to be renovated. The nursery floor including the entrance needs to be levelled and plastic laid down to control weeds and pests. The tables need to be completely redone and a new irrigation system to be set up. The shed where mixing of soil and the filling of polybags are undertaken is also in need of reparation. There are leaks in the roof and the layout of the shed needs to be improved. The storage area for soil and humus needs to be redone. The fencing around the boundary of the nursery needs to be completely replaced because it is old, broken, the poles are rusted and half of the boundary fence is gone. The nursery boundary door has holes in it and needs to be replaced with new fence. Materials and cost for the work has already been identified and funding is needed for the work. In addition, equipment for forest fire fighting needs to be replaced in case there is a fire.

Having a more attractive reception area or a visitor centre with adequate parking space where visitors can be received, may also aid in promoting the park better. However, upgrading the main office or building a visitor centre is out of the scope of the current management plan.

The infrastructure on Glacis Noir trail needs to be improved. The path and drains are in poor conditions in certain areas leading to risks of landslides and contamination of water resources. Railings need to be erected on steep slippery slopes and the kiosk at the viewpoint is in need of renovation. Moreover, there is a need to place signboards, information boards, benches and bins on the trail to improve visitor experience.

#### **3.4.1. Management objective**

Establish relevant infrastructure framework to support management of the park.

#### **3.4.2. Strategies**

- i. To maintain nursery facilities to support management activities of the PNP. This will include new boundary fence and door, new nursery tables, irrigation system, levelling the floor and entrance prior to installing weed control plastic cover on the floor, repair of the shed and the soil storage area.

- ii. To purchase equipment needed as per the itemised list of equipment and items (Annex 2) for staff to implement their tasks. This will include a maintenance and replacement plan for essential equipment.
- iii. To purchase a truck to support operations of the park
- iv. To enhance facilities on Glacis Noir trail to enhance visitors experience through the following activities:
  - a. Repair and maintain Glacis Noir trail and drainage system,
  - b. Install railings on steep slippery slopes on the trail,
  - c. Repair viewpoint kiosk at the end of the Glacis Noir trail,
  - d. Install benches along the trail and the Glacis Noir wetland,
  - e. Install information boards on interesting aspects of the park, and signage and plant plaques
- v. To reduce the amount of litter observed in the park:
  - a. Prepare and install “No littering” signs at the starting point of trails and key areas along the main road within the park,
  - b. Install litter bins at the start of trails located near the main road (for easy collection purposes),
  - c. Introduce the sale of biodegradable rubbish/litter bags to visitors on the trail. SPGA logo can be placed on the bag.

### **3.5. Sustainable forestry resource use**

The sustainable exploitation of forest resources is the main activity generating revenue for the PNP (see section 2.6.1). Forestry species that are currently being exploited are timber species like Mahogany, Santol, Kalisdipap, Albizya, Tek), Bwa zonn, Bwa nwanr, Jackfruit, Lila and native species such as Takamaka and Bodanmyen. Other species are used for their leaves and branches like Lantanyen fey, Raffia and Vakwa and the Coco-de-mer for its nuts and leaves. There are however issues with the management of forestry whereby stocks that are harvested are not immediately replanted. Native species like palms quickly grows in the harvested patches limiting the space for replanting with commercial timber species. Secondly, historical plantations assessed during the time of Henry (1976) and current plantations are not mapped and properly documented in terms of their location, tree species, stock size/volume and age, tree diameter and average height and general health. Such maps are considered as prime requirements for future management. The maps created by Henry (1976) are the best data available and the described stocks are probably still there in most cases. Hence, a detailed re-evaluation of the stock described by Henry (1976) should be done and then combined with the currently managed forestry data with exhaustive and detailed GIS data. This will require digitizing Henry's maps first; then taking them in the field using Smartphone GIS tools. Re-evaluation should be done following forestry methods such as those used in Henry's time. Thirdly, there is a need to explore other species that can be commercially exploited such as bamboo for a bamboo-based forestry. A cost and benefit analysis will have to be done to assess the viability of the venture. There is also potential in the sales of native and medicinal plants and more emphasis needs to be placed on this activity.

### **3.5.1. Management objective**

To ensure long-term harvest levels, forest productivity and conservation of forest resources to generate revenue to support the management of the park and for the benefit of local communities.

### **3.5.2. Strategies**

- i. To re-evaluate forestry plantations and conduct a comprehensive survey of all plantations (old & current ones) in terms of their location, tree species, stock size/volume and age, tree diameter and average height and general health.
  - a. A consultant will have to be contracted to re-evaluate forestry plantations and conduct a comprehensive survey of all plantations. This will include the digitization of old forestry plantations map produced by Henry (1976) for use in re-evaluating the stocks and the mapping of the extent of all forestry plantations using forestry methods such as those used in Henry' time.
- ii. To explore the use of current and other commercial forestry products including native species that were used in the past and species that were traditionally exploited. This will include a cost and benefit analysis of new forestry ventures like bamboo-based forestry.
- iii. To effectively manage forestry plantations for revenue generation for the PNP and for the benefit of local communities. Activities under this strategy will include:
  - a. Timber thinning, weeding and other stock management/improvement practices,
  - b. Preparation of sites to be re-planted after each harvest,
  - c. Production of seedlings for regeneration/reforestation i.e. to replace harvested stocks
  - d. Re-survey all forestry plantations every 5 years.
- iv. To generate revenue from sustainable forest resource use through,
  - a. Harvesting stocks as and when necessary and,
  - b. Production of native seedlings including medicinal plants for sale to the public

## **3.6. Education, Outreach and Visibility**

Poor visibility, undervaluing of the park by the community at different levels i.e. national and community level and the continuous need for education and awareness were identified as major threats to the management of the national park. There are opportunities to create visibility of the park by promoting it through various means like the media, social media, online platforms, schools etc. Dissemination of information about the park and its assets to the public e.g. information from research are also of great importance in raising awareness, educating users and in creating visibility. This management plan provides the direction and guidance for the development and implementation of actions that will enhance education, outreach and visibility of the park.

### **3.6.1. Management objective**

Develop and implement an education, outreach and visibility programme to enhance staff, visitors and the general public understanding of the values of the park by the use of up-to-date and accurate information.

### **3.6.2. Strategies**

- i. To establish a long-term education, outreach and visibility programme for the PNP. A number of activities are needed to achieve this strategy:
  - a. Recruit a qualified Education and Outreach Officer for the Inner Islands protected areas (the E & O officer will be responsible not only for Praslin but other protected areas within the Inner Islands),
  - b. The Education and Outreach Officer to develop and implement an education, outreach and visibility programme for staff to raise awareness and understanding of values of the national park, the purpose of the management zones, legislations and regulations and of the management plan,
  - c. The Education and Outreach Officer to develop and implement an education, outreach and visibility programme for visitors to raise awareness and understanding of values of the national park and code of conduct within the park,
  - d. The Education and Outreach Officer to develop and implement an education, outreach and visibility programme incorporating community events for the wider community including children to raise awareness and understanding of values of the national park,
  - e. The Education and Outreach Officer to submit project proposals on education and outreach for external funding to support all education and outreach programmes.
- ii. To enhance visibility and promote the values, uses and importance of the national park through various media (website, social media, articles etc) and organisations like the Department of Tourism and Destination Management Companies (DMCs). This will include activities like:
  - a. The Education and Outreach Officer to produce materials (leaflets, videos, articles) for SPGA website, Facebook page, local media and general public on the values, uses and importance of the national park and code of conduct to adopt within the PNP,
  - b. The Education and Outreach Officer to promote the park through organisations like the Department of Tourism and Destination Management Companies (DMCs),
  - c. Produce information boards to demarcate the park,
  - d. Produce signboards for guidance within the park.
- iii. To assess the effectiveness of the education, awareness and outreach programme
  - a. The Education and Outreach Officer to conduct a survey every two years of students (Kindergarten to University) and the general public to assess the effectiveness of the education, awareness and outreach programmes.

### **3.7. Community-based Engagement in protected area management**

Stewardship towards the environment and a sense of ownership were identified as major threats to the management of the park. If the people do not sufficiently value the park, if they are not involved in the activities of the park and they are not aware of the ways the park may contribute to their livelihoods, well-being and community development, they may not find the need for them to contribute actively to its protection and management. Therefore, there is the opportunity for integration of communities into the management and activities of the park which can have benefits to them either monetary or otherwise. Activities can include clearing and maintenance of the firebreaks, patrolling the park, setting up new trails, controlling invasive species, plant production and replanting. Community can also propose actions / activities to be involved in. If the park is highly valued, then the people will perceive it as a gold mine and invest more in its protection and management. Considering the potential for different zoning of the national park and the future zonation that will be done, the communities could be more involved in the 'sustainable resource use zone' in forestry activities.

#### **3.7.1. Management objective**

Provide and facilitate opportunities for all levels of the community to actively engage in the protection and management of the park.

#### **3.7.2. Strategies**

- i. To develop and implement a community engagement plan based on SPGA communication strategy that will provide opportunities for civil society groups, research institutes, universities, local businesses and other interested community members to participate in management activities of the park. This will include the following activities:
  - a. The Education and Outreach Officer to develop and implement a community engagement plan based on SPGA communication strategy that will provide opportunities for civil society groups, research institutes, universities, local businesses and other interested community members to participate in management activities of the park.
  - b. The Education and Outreach Officer to prepare and submit project proposals for external funding for community engagement in national park management in line with the community engagement plan
  - c. The CEO to explore co-management opportunities with interested civil society groups and local businesses.
  - d. Generate and collect revenue from co-management ventures.

#### **3.8. Knowledge creation, Research and Monitoring**

The National Park Authority does not currently have a research and monitoring program for the Praslin National Park nor does it have a team in place to conduct such activities. There is a lack of knowledge to inform management decisions but also a lack of information which can be disseminated to the wider audience. There is a need to collect and manage information on the natural assets of the park e.g. critical species, location of hotspots of biodiversity, habitat-types, wetlands, landforms and other aspects like cultural and historical to support planning and decision-making. For instance, the ridges and slopes near Mt. Takamaka and north of the northern limit of the national park as well as



the 31 wetlands mapped under the GOS-UNDP-GEF EbA project are poorly known and underexplored. They hence constitute important gaps of exploration. Hence, basic data collection is needed and the information needs to be regularly updated through continuous research and monitoring. In terms of climate change there is not much good baseline weather data for Praslin. There is a need to install weather meters to allow the park to generate baseline data to understand (and maybe predict) the changes that will come in terms of future plant/animal responses. All of this work should be integrated into a management-orientated research and monitoring plan which will be implemented in collaboration with other local and international organisations. The plan can also include an assessment of the economic value of ecosystem services of the park to Praslin and the country. This assessment may be beneficial for accessing donor funds in the future.

R2R project is working with SPGA to get a proper data management system/database developed and functioning. All SPGA research and monitoring data (from internal and external researchers) should be safely stored and managed in Database.

### **3.8.1. Management objective**

Conduct and promote research and monitoring that enhances knowledge and guide the management of the park.

### **3.8.2. Strategies**

- i. To set up a Research and Monitoring Unit on Praslin or recruit a Research Officer by 2022
- ii. To conduct inventories of species and ecosystem-types during 2022-2024. This will be executed as follows:
  - a. With the assistance of other organisations or external consultants/researchers, conduct inventories of plants, amphibians, reptiles, fish, invertebrates, fungus, lichens and ecosystem-types,
  - b. With the assistance of external consultants/researchers, explore and document the ridges and slopes near Mt. Takamaka and north of the northern limit of the national park,
  - c. With the assistance of external consultants/researchers, undertake detailed biological survey of all 31 wetlands (Fond Boffay & Nouvelle Decouverte rivers, marshes and swamps) of the national park,
  - d. With the assistance of external consultants/researchers, develop and implement long-term freshwater monitoring to detect changes in species composition and abundance,
  - e. SPGA staff to conduct an exercise to record GPS locations of Coco-de-mer trees in the park
- iii. To collect good baseline data on climate change and impacts onto biodiversity
  - a. Install manual and/or (part-)automated temperature and rainfall/humidity meters in a few locations in the park including at SPGA offices).
  - b. With the assistance of external consultants/researchers, regularly collect and analyse the weather data
- iv. To undertake taxonomic revisions of key plant species in the PNP through the following activities:

- a. With the assistance of the National Herbarium, undertake taxonomic revisions of Bwa koulev (*Psychotriadupontiae*), Lafisel mov (*Seychellaria*), Arouroute de l'Inde (*Protarumsechellarum*), Bwa kato (*Brexiamicrocarpa*), an unidentified Cynorkis (orchid) at Fond Azore and ferns of the genus *Antrophyum*
  - b. During explorations, identify other gaps, research needs and priority areas for research and monitoring
- v. To develop and implement a management-orientated research and monitoring programme. This will entail the following activities:
  - a. The Research Officer to develop a management-orientated research and monitoring programme,
  - b. The Research Officer to implement a management-orientated research and monitoring programme,
  - c. The Research Officer to submit project proposals to project donors for research needs,
  - d. Conduct joint research and monitoring with institutions and universities,
  - e. Undertake annual review of research carried out as per the Management-orientated research and monitoring programme.
- vi. To develop and maintain a data management system and or partner with institutions that have developed similar data systems.
- vii. To advertise the priority research and monitoring programme annually as of 2022 and collaborate with research institutions to implement.
- viii. To communicate research results to relevant stakeholders annually e.g. tour guides to enhance client experience.

### **3.9. Surveillance and Enforcement**

Inadequate law enforcement is considered a threat to the management of the park. A lack of staff to undertake surveillance and a lack of enforcement capability contribute to the presence of illegal activities like poaching of Coco-de-mer, damages / vandalism to plants during poaching, wildlife trafficking of e.g. giant gecko, chameleon and the illegal felling of commercial trees. There are also risks of pollution of drinking water through human activities. Legislations to prohibit and penalize these illegal activities exist but need to be enforced. Better involvement and cooperation from the Police department and other enforcement authorities as well as community involvement on co-management are needed. Procedures to ensure effective co-operation and coordination between SPGA and relevant enforcement authorities e.g. Police department already exists but needs to be strengthened. A surveillance and enforcement programme already exists but there is a need to increase patrol and seek the assistance of the Police in some cases. The development of a manual on enforcement procedures is planned in 2021 under the GOS-UNDP-GEF Protected Area Finance project. Training on law enforcement is done by the Police Academy.

#### **3.9.1. Management objective**

Enhance surveillance and ensure an adequate level of compliance with legislations and regulations of the park

### **3.9.2. Strategies**

- i. To strengthen the surveillance and enforcement programme. This will include activities to;
  - a. Increase the number of patrols done,
  - b. Work with the Police Department to conduct regular patrolling.
- ii. To enhance co-operation and coordination between SPGA and relevant enforcement authorities e.g. Police department by;
  - a. Enhancing dialogue/communication between SPGA and relevant enforcement authorities plus enhancing their awareness of pertinent issues.
- iii. To enhance knowledge and capability of staff in law enforcement, legislations and regulations of the park
  - a. Conduct annual staff training in legislations and regulations of the park and in enforcement

### **3.10. Invasive Alien Species Management and Biosecurity measures**

Invasive Alien Species (IAS) like the Yellow crazy ant (Fourmimaldiv, *Anoplolepis gracilipes*), Dumb cane (Vya tang, *Dieffenbachia seguine*), creepers like Devil's Ivy (Filodendron, *Epipremnum pinnatum*) pose major risks to the native plants and animals as well as to the habitats of the park. Some IAS management activities are being undertaken by SIF in the Vallee de Mai and SPGA has also been controlling some invasive plants, but there is a need to establish and implement a management plan for the entire park. In addition, there is a lack of knowledge on the distribution of IAS in the park. Moreover, continuous life-long education and awareness should be undertaken to raise awareness on the dangers of IAS to our national and natural heritage. The management of IAS can fall under the responsibility of the Research and Monitoring Unit in collaboration with SIF. There is also a need to reduce threats from macrofaunal IAS but also plant and animal diseases. This can be done by assessing biosecurity measures and possibly devising and implementing a new biosecurity plan for the park in collaboration with the National Biosecurity Agency and the Ministry of Agriculture, Climate Change and Environment.

#### **3.10.1. Management objective**

Reduce threats to native biodiversity through the implementation of a long-term management plan for Invasive Alien Species

#### **3.10.2. Strategies**

- i. To conduct an assessment of IAS in the park and prioritise species and areas for management:
  - a. The Research and Monitoring Unit with external consultants/researchers to undertake an assessment of IAS in the park (species occurrence, distribution, abundance & spread) and prioritise species and areas for management,
  - b. The Research officer to apply for donor-funded projects to assist with IAS assessment in the park.
- ii. To develop and implement an IAS management and Biosecurity plan:

- a. The Research and Monitoring Unit to develop and implement an IAS management and Biosecurity plan using data from the IAS assessment,
  - b. SPGA to sub-contract some IAS management activities to local contractors.
- iii. To develop projects including joint research and monitoring to implement the IAS management and Biosecurity plan:
  - a. The Research and Monitoring Unit to develop projects, joint research and monitoring on IAS
- iv. To develop and implement an IAS education and awareness programme
  - a. The Research officer and the Education and Outreach officer to develop and implement an IAS education and awareness programme. The programme to include field activities like removal of IAS and replanting with natives, site visits, hands-on learning activities, IAS identification, articles, videos and photo competitions, story-telling, artwork and crafts etc.

### **3.11. Forest Fire management**

Forest fire is the main threat to biodiversity on Praslin but the number of forest fires has greatly reduced in the past few decades mainly due to increased education and awareness. Nonetheless, forest fire remains a potential problem for the park through activities like smoking and unregulated access. There has been reviews in legislations that control fires like the 'Lightening of fires (Restriction) Act (1976, consolidated in 2012)' and the current 'Fire Contingency plan' will be updated under the GOS-UNDP-GEF Ridge to Reef project, where it will be important to define the role of SPGA in forest fire fighting, the line of command and the exact procedures to follow in an emergency. The determination of the role of SPGA in forest fire fighting will determine the types of equipment needed for the execution of the role. There is also a need for continuous training in firefighting and in enhancing equipment. But most importantly, there is a need to continue with prevention measures such as setting up early warning systems and lifelong education and awareness programmes, considering that most fires are started by humans - either through arson or accidentally i.e. not 'natural'. Another challenge faced by SPGA is the maintenance of firebreaks which is very costly and currently large portions of the firebreaks are unmaintained. This can be a fire hazard, because of dry bushes and grasses on the ground. For example, the firebreak of Fond Azore poses more risk of fire than if it was not there. The purpose of firebreak also needs to be revisited. If the idea is mostly for fast and easy access (not stop a fire) then it would be better to have a maintained trail for hiking, running, cycling under forest canopy. But if the idea is to stop a fire, then the nature and dimension of the firebreak needs to be maintained accordingly and firebreaks reviewed to find the best positions. In addition, the GOS-GEF-UNDP Ecosystem based adaptation project is exploring other means to fight forest fires such as the creation or enhancement of marshes to increase the volume of water that can be accessed by air (helicopter) to put out fires.

#### **3.11.1. Management objective**

Ensure procedures are in place for prevention and proper management of forest fires

#### **3.11.2. Strategies**

- i. To contribute to the revision of the Forest fire contingency plan:
  - a. Provide input to the revision of the Forest fire contingency plan,
  - b. Determine the role of SPGA in forest fire fighting
- ii. To enhance capacity for forest fire fighting
  - a. Based on the role of SPGA in forest fire fighting, conduct appropriate training to enhance the skills of staff,
  - b. Based on the role of SPGA in forest fire fighting, enhance forest fire-fighting equipment and accessories.
- iii. To develop and implement early warning systems particularly during the dry season
  - a. Prepare TV and Radio spots to be aired on SBC prior and during the dry season,
  - b. Install a fire danger rating system to warn the public of potential fire risks,
  - c. Install “No smoking” signs at the starting points of trails and in key areas along the main road within the park.
- iv. To effectively manage the firebreak and the network of access paths:
  - a. Maintain the firebreak access path network by outsourcing to local contractors,
  - b. Consider turning some of the access paths into trails for hiking, running or cycling that communities can adopt and maintain,
  - c. Undertake a review of requirements for numbers, position, design and new ideas for the maintenance of firebreaks e.g. green barriers.
- v. To rehabilitate post-fire degraded sites in collaboration with local partners:
  - a. Research Officer to apply for donor funds to implement rehabilitation projects in post-fire degraded sites,
  - b. Agreement for signature with project partners to rehabilitate post-fire degraded land,
  - c. Produce and plant native seedlings for rehabilitation.
- vi. To implement lifelong education and awareness programmes on causes and impacts of forest fires etc:
  - a. Conduct a forest fire education and awareness campaign. The programme to include field activities like site visits, hands-on learning, articles, short documentaries, posters, videos and photo competitions, story-telling and artwork etc.

### **3.12. Negative impacts on nature from unregulated visitor use**

Unregulated visitor use, especially the impacts of large groups of visitors from cruise ships, are negatively impacting on nature through damage to trails, noise pollution and disturbance to wildlife and trampling of plants. Insufficiently knowledgeable tour guides not informing visitors of codes of conduct in the park and not passing on correct information to visitors is also seen as a threat to the management of the park.

### **3.12.1. Management Objective**

Minimise damage to the park's natural habitats by park visitors and improve the level of knowledge of tour guides.

### **3.12.2. Strategies**

- i. To improve the knowledge of tour guides on the park's biodiversity values and codes of conduct within the park:
  - a. The Research officer and Education and Outreach officer to provide training and resource/knowledge materials to tour guides.
- ii. To enhance awareness of visitors on park values and codes of conduct when visiting the national park
  - a. The Education and Outreach officer and the Research officer to produce leaflet on codes and conduct within the park for the SPGA website,
  - b. Install an information board with codes of conduct and Do's and Don'ts whilst in the park.
- iii. To ensure that tourism operators are familiar with management practice codes to reduce impact onto the PNP.
  - a. The Education and Outreach officer to develop and share management practice codes with tourism operators.

### **3.13. Successful implementation of the management plan over the years**

SPGA will have to ensure that the management plan is being successfully implemented over the years. The targets and performance indicators under each strategy provides the necessary measure to achieve this. In addition, SPGA will have to culminate the number of indicators achieved annually. This exercise will allow the management to review the implementation of the plan on an annual basis.

### **3.13.1. Management Objective**

Ensure the successful implementation of the management plan over the years.

### **3.13.2. Strategies**

- i. To measure the successful implementation of the management plan over the years
- ii. To conduct annual review of the management plan

## 4. Performance Measurement System (PMS)

Table 4: Performance measurement system

Objectives	Strategy	Activities	Targets	Performance indicators	Time line	Priority
3.1. Protected areas legislation and policy						
Establish relevant legal framework to support management of the park	To ensure that the protected area is designated as a ‘National Park’ under the new ‘Nature Reserves and Conservancy Bill’	Staff to review the bill, provide comments and ensure that pertinent aspects are included into the final bill	All comments are included into the final bill by December 2021	Praslin National Park incorporated into the new bill as per target	2021	Medium
		Prepare regulations for the park such as zonation scheme for the park (see next activity below)and new regulation for law enforcement with higher penalties	At least 1 regulation prepared for the park by December 2022	Number of National Park regulations by target date	2022	Medium
	To propose and implement a zoning scheme for the national park which will include the following zones – conservation, sustainable resource use, rehabilitation, tourism and recreation, and a buffer zone which can be a 'soft' forestry production area. The zoning can be developed either as a regulation under the law or as a policy within SPGA	Develop terms of reference, identify and contract consultant to undertake the zoning of the park	Consultant contracted by January 2022	Consultant contracted by target date	2022	High
		Consultant to produce a report with the zoning scheme and maps	Consultancy report including zonation map (with GPS) showing areas delineated for conservation, sustainable resource use and forestry, rehabilitation, tourism and recreation, and buffers developed by April 2022	Consultancy report submitted by target date	2021-2022	High
		SPGA to incorporate the new zoning scheme into the management plan and regulations	Zoning scheme incorporated into the management plan and regulation by end 2022	Regulation for zoning scheme by target date	2022	High
3.2. Financial management						
Establish relevant financial framework to support management	To develop and implement a sustainable financial management system (business plan) for the national park where budget is assigned to management actions and regularly reviewed	Develop terms of reference, identify and contract a consultant to develop the business plan	Consultant contracted by January 2022	Consultant contracted by target date	2022	High
		Consultant to produce a report including the business plan	Consultancy report including a business plan produced by March 2022	Consultancy report including business plan developed by target date	2022	High

t of the park		SPGA to implement the business plan	Business plan implementation starting June 2022	Implementation of nature-business plan started by target date	2022	High
	To develop and implement a nature-based tourism plan to generate revenue for the park and to provide visitors with access and a diversity of experience through high quality and unique environmental assets	Develop terms of reference, identify and contract a consultant to undertake a nature-based tourism plan	Consultant contracted by January 2022	Consultant contracted by target date	2022	Medium
		Consultant to produce a report including a nature-based tourism plan	Consultancy report including a nature-based tourism plan produced by March 2022	Consultancy report including a nature-based tourism plan developed by target date	2022	Medium
		Consultant to prepare a list of services/activities/products available to visitors in the PNP and integrate it into the nature-based tourism plan	List of services/activities/products prepared by February 2022 and included into the nature-based tourism plan	List of services/activities/products prepared by target date	2022	Medium
		Consultant to develop a marketing plan to market/promote nature-based tourism. This can be integrated into the nature-based tourism plan	Marketing plan developed by March 2022	Marketing plan developed by target date	2022	Medium
		SPGA to start implementation of the nature-based tourism plan	Nature-based tourism plan implementation starting June 2022	Implementation of nature-based tourism plan started by target date	2022	Medium
		Work with the Department of Tourism, Destination Management Companies (DMCs) and other businesses to advertise the park	PNP to feature in minimum 1 advert or promotional material disseminated by STB & DMCs per year starting 2022	Number of adverts or promotional materials in which PNP had featured per year	2022-2025	Medium
			At least 3 companies targeted for marketing annually starting from 2022	Number of companies targeted for marketing per year	2022-2025	Medium
			Link SPGA website to STB and at least 3 DMCs by December 2021	Number of websites linked to SPGA website by target date	2021	Medium
		Produce or contribute to promotional materials like those commissioned by STB	At least 2 promotional materials produced per year starting December 2021	Number of promotional materials produced & disseminated annually	2021-2025	Medium
		Introduce visitor fees for the Glacis Noir trail (after the trail		Number of tickets sold annually	2022-2025	High



		has been enhanced as per section 3.4)	Sales of tickets for Glacis Noir trail implemented by September 2022	Number of visitors on the trail annually		
			Increase of 20% in visitor numbers annually starting from 2023 in line with SPGA strategic plan	Number of visitors to the national park annually	2023-2025	High
				Amount of revenue in SCR generated from Glacis Noir trail annually		
		As part of the nature-based tourism plan work with businesses to produce merchandise that promote nature (souvenirs, crafts, paintings, t-shirts etc)	At least 3 local businesses/artisans involved in such revenue-generation activities by April 2022	Number of investors from the local community involved in such revenue-generation activities by target date	2022-2025	Medium
			At least 10 merchandises specific to the PNP produced by local artisans, available for purchase by September 2022	Number of merchandises specific to the PNP available for purchase by target date		
			At least 80% investors making a financial contribution to SPGA annually as from December 2022	% of financial contribution (in SCR) of those investors paid back to SPGA	2022	High
		As part of the nature-based tourism plan open up new trails for hiking, cycling, fitness etc	At least one new trail (payable by visitors) opened by December 2023	Number of new trails opened by target date	2023	Medium
		As part of the nature-based tourism plan collect revenues for the management of the PNP	25% increase in annual revenue generation in line with SPGA strategic plan	Amount of revenue in Seychelles rupees collected from sales of merchandise and tourism activities	2022	High
	To apply for external funding grants which are invested into management plan priorities	Search for external donors to fund projects as part of the management of the park	List of grants/donors produced by October 2021	List of grants/donors produced by target date	2021	Medium
		Prepare project proposals in line with management priorities	List of project concepts prepared by December 2021	List of project concepts produced by target date	2021	Medium
		Implement donor funded projects as per the management plan priorities	At least one project implemented per year starting from January 2022	Number of projects implemented per year	2022-2025	Medium
	To explore ways that commercial water extraction can financially contribute to the protection of water catchments. This should not	Undertake discussions with businesses on financial contributions from commercial water extractions	At least 2 companies engaged in discussions by October 2021	Number of companies engaged in discussions by target date	2021	High

	apply to non-commercial public use of water as there is already an environmental charge on water bills	Collect financial contributions from commercial water extraction	At least 2 companies making annual contributions as from January 2022	Number of companies contributing financially for commercial water extraction by target date	2022-2025	High
				Amount of revenue in Seychelles rupees collected from commercial water extraction		
3.3. Human resource management						
Establish relevant human resource frameworks to support management of the park	To review staffing levels and requirements for effective and efficient management of the park. Staffing should take into account the right level of academic qualifications and field experience.	The Human Resource department with the assistance of an external evaluator to review management structure and staffing (level of education/experience, staffing requirements and financial packages)	Assessment completed by December 2021	Staff review exercise undertaken and report of recommendations produced target date	2021	High
	To train, build capacity and develop competencies of staff in various core areas	The Human Resource department to undertake a staff training needs assessment and prioritize training needs	Assessment completed by December 2021	List of training needs & assessment completed by target date	2021	Medium
		The Human Resource department to prepare an annual training programme	Annual training plan prepared by October 2021	Annual training programme prepared by target date	2021-2025	Medium
		Implement the annual training programme	At least 50% of staff receive training annually	Percentage of training completed annually	2021-2025	Medium
		Organise joint training sessions with other similar organisations	At least 2 joint-training sessions annually starting from January 2022	Number of joint-training sessions annually	2022-2025	Medium
	To implement planning tools for effective and efficient daily management of the park	Establish clear and concise annual workplans which are translated into quarterly, monthly and weekly workplans	Each staff or unit to have their own weekly/monthly/quarterly/annual workplan at the beginning of each year	% of workplans completed by target date	2021-2025	High
		Review workplans every quarter to ensure achievements of all outputs	100% of workplans reviewed every quarter starting 2021	% or number of workplans reviewed by target date	2021-2025	High
		Produce reports against management actions on a weekly, monthly, quarterly and annual basis	Each staff to produce a report against management actions on a weekly, monthly, quarterly and annual basis	% or number of staff producing timely progress reports	2021-2025	High

		Develop and implement an overall leadership index of performance to assess senior staff (CEO and Directors) performance in delivery of tasks	Above 80% performance in delivery of tasks per year	% of staff contributing to over 80% of delivery of tasks and performance indicators targeted in the annual workplan	2021-2025	High
		Develop and implement an overall staff output index of performance to assess staff performance in delivery of tasks	Above 80% performance in delivery of tasks per year	% of staff contributing to over 80% of delivery of tasks and performance indicators targeted in the annual workplan	2021-2025	High
		With the assistance of external trainers provide trainings to staff for the use of planning and management tools like Asana and Instagantt to better plan daily work duties and to report on performance indicators	At least 50% of staff receive training annually	% of staff receiving training as per target	2021-2025	Medium
	To establish joint work programmes with other organisations particularly where staff or skills are limited	Establish partnerships with other organisations, plan and undertake joint work programmes particularly where staff or skills are limited	At least 2 joint-work programmes annually as from October 2021	Number of joint-work programmes conducted annually	2021-2025	Medium

### 3.4. Infrastructure management

Establish relevant infrastructure framework to support management of the park	To maintain nursery facilities to support management activities of the PNP	Install new boundary fence and door	1 new boundary fencing and door by January 2022	New boundary fencing and door erected by target date	2022	Low
		Replace shade cloth over entire nursery	100% of shade cloth replaced by December 2021	% shade cloth replaced by target date	2021	High
		Install new nursery tables	12 tables for nursery constructed by December 2021	Number of tables for nursery constructed by target date	2021	High
		Install new irrigation system	Install new irrigation system by December 2021	1 new irrigation system in place by target date	2021	High
		Conduct levelling of the nursery floor and entrance	Levelling of the nursery floor and entrance done by October 2021	Flooring completed by target date	2021	High
		Install weed control plastic cover on the floor	Install weed control plastic cover on the floor by October 2021	Flooring completed by target date	2021	High
		Repair both the shed and the soil storage areas	Repair both the shed and the soil storage areas by December 2021	1 shed and 1 soil storage area repaired by target date	2021	Medium

		Prepare plants in the nursery for reforestation, rehabilitation and sales	10,000 seedlings produced per year	% of plants produced annually	2021-2025	High
To purchase equipment needed for staff to implement their tasks	Purchase equipment needed as per the itemised list of equipment and items		100% of equipment purchased and issued by 2023	% of items on the list of equipment purchased	2021-2023	High
				% of items on the list that is currently available		
	Prepare a maintenance and replacement plan for essential equipment and implement it	Maintenance and replacement plan for essential equipment in place by December 2021 and updated annually		Maintenance and replacement plan for essential equipment prepared by target date and updated annually	2021-2025	Medium
				% equipment maintenance and replaced annually		
To purchase a truck to support operations of the park	Purchase a truck to support operations of the park	New truck purchased by December 2022	New truck purchased by target date		2022	High
To enhance facilities on Glacis Noir trail to enhance visitors experience	Repair and maintain Glacis Noir trail and drainage system	Glacis Noir trail drains and path repaired by June 2022	Glacis Noir trail drains and path repaired by target date		2022	High
	Install railings on steep slippery slopes on the trail	Install railings on steep slopes on the trail by June 2022	New railing on Glacis Noir trail by target date		2022	High
	Repair viewpoint kiosk at the end of the Glacis Noir trail	Glacis Noir viewpoint kiosk fixed by June 2022	Glacis Noir viewpoint kiosk fixed by target date		2022	High
	Install benches along the trail and the Glacis Noir wetland	At least 5 benches installed on the trail and around the wetland by June 2022	Number of benches installed by target date		2022	Low
	Install information boards on interesting aspects of the park, and signage and plant plaques	At least 2 information boards, 3 signboards and 30 plant plaques installed on Glacis Noir trail by June 2022	Number of information boards, signage and plant plaques installed by target date		2022	Medium
To reduce the amount of litter observed in the park	Prepare and install “No littering” signs at the starting point of trails and key areas along the main road within the park	2 signboards erected prompting visitors not to litter, by December 2021	Number of information boards erected in relation to target		2021	Low
	Install litter bins at the start of trails	2 litter bins installed at the start of the Glacis Noir trail by December 2021	Number of litter bins installed in relation to target		2021	Medium
	Introduce the sale of biodegradable rubbish/litter bags	Biodegradable rubbish/litter bags introduced by September 2022	Biodegradable rubbish/litter bags introduced by target date		2022	Low

		to visitors on the trail. SPGA logo can be placed on the bag				
<b>3.5. Sustainable forestry resource use</b>						
To ensure long-term harvest levels, forest productivity and conservation of forest resources to generate revenue to support the management of the park and for the benefit of local communities	To re-evaluate forestry plantations and conduct a comprehensive survey of all plantations (old & current ones) in terms of their location, tree species, stock size/volume and age, tree diameter and average height and general health	Develop terms of reference and contract a consultant to re-evaluate forestry plantations and conduct a comprehensive survey of all plantations	Consultant contracted by November 2021	Consultant contracted by target date	2021	Medium
		Consultant to digitize old forestry plantations map produced by Henry for use in re-evaluating the stocks	Old forestry plantations map digitised and available by December 2021	Old forestry plantations map digitised and available by target date	2021	Medium
		Consultant to map the extent of all forestry plantations using forestry methods such as those used in Henry' time	Mapping of all forestry plantations by February 2022	Map of all forestry plantations with GPS locations done as per target	2022	Medium
				Number and area in hectares of forestry plantations	2022	Medium
		Consultant to evaluate forestry stocks in the PNP providing their location, size/volume and age, tree species, tree diameter and average height and general health	Forestry stocks in the PNP evaluated by March 2022	Forestry stocks in the PNP evaluated by target date	2022	Medium
				Consultancy report and data available on stock location, amount of timber in cubic meter in each stock, size, age and health of stocks		
	To explore the use of current and other commercial forestry products including native species that were used in the past and species that were traditionally exploited	List current forestry species and search for other commercial forestry resources, commercial native species and species that were traditionally exploited	List of current and other potential commercial forestry resources prepared by October 2021	List of all forestry resources that can be potentially exploited prepared by target date	2021-2025	Medium
				% of new potential forestry resources exploited		
				% of all forestry species on the list being exploited annually		
		Conduct a cost and benefit analysis of new forestry ventures like bamboo-based forestry	Cost and benefit analysis of new forestry ventures conducted by March 2022	Recommendations from cost and benefit analysis in relation to target	2022	Medium

	To effectively manage forestry plantations for revenue generation for the PNP and for the benefit of local communities	Conduct timber thinning, weeding and other stock management/improvement practices	Conduct timber thinning, weeding and other stock management/improvement practices at least twice a year	Number of sessions of stock management completed annually	2021-2025	Medium
		Prepare sites to be re-planted after each harvest	Sites for replanting after each harvest to be prepared at least twice a year	Number of hectares prepared for replanting annually	2021-2025	Medium
		Produce seedlings of forestry species to replace harvested stocks	Produce a minimum of 3000 seedlings annually to replace harvested stocks	Amount of forestry species produced in nursery as per target	2021-2025	High
			Over 50% of forestry species produced are planted annually	% of forestry species planted annually	2021-2025	High
		Re-survey all forestry plantations on a periodic basis	All forestry plantations are re-surveyed every 5 years	Updated forestry plantation map, data and report as per target	2025	Medium
				% increase in size of forestry plantations		
	To generate revenue from sustainable forest resource use	Harvest stocks as and when necessary	Forestry resources are harvested annually	Amount of timber in cubic meter harvested and sold	2021-2025	High
				Number of palm leaves harvested and sold		
				Number of Coco-de-mer nuts harvested and sold		
				Amount of revenue in Seychelles rupees generated annually		
		Produce native seedlings including medicinal plants annually for sale to the public	Produce at least 500 native seedlings annually, including medicinal plants for sale to the public	Amount of native species produced in nursery for sale to the public annually	2021-2025	High
3.6. Education, Outreach and Visibility						
Develop and implement an education, outreach and	To establish a long-term education, outreach and visibility programme for the PNP	Recruit a qualified Education and Outreach Officer	Contract signed with Education and Outreach Officer by January 2022	Contract signed with Education and Outreach Officer by target date	2022-2025	High
		The Education and Outreach Officer to develop education, outreach and visibility programmes for (i) staff, (ii)	3 education, outreach and visibility programmes for (i) staff, (ii) visitors & (iii) the wider community including	Education, outreach and visibility programmes for (i) staff, (ii) visitors & (iii) the wider community including	2022	Medium

visibility programme to enhance staff, visitors and the general public understanding of the values of the park by the use of up-to-date and accurate information		visitors & (iii) the wider community including children	children developed by March 2022	children developed in relation to target		
		The Education and Outreach Officer to conduct activities for staff annually	At least 3 activities conducted for staff annually	Number of activities conducted and number of staff targeted	2022-2025	Medium
		The Education and Outreach Officer to conduct activities for visitors annually	At least 3 activities conducted for visitors annually e.g. tree planting	Number of activities conducted and number of visitors targeted	2022-2025	Medium
		The Education and Outreach Officer to conduct activities with students (Kindergarten to University) during the holidays	At least 3 activities targeting a minimum of 60 students conducted annually	Number of activities conducted and number of students targeted	2022-2025	Medium
		The Education and Outreach Officer to conduct activities for wider community annually	At least 3 activities targeting a minimum 150 participants conducted for wider community annually	Number of other activities conducted and number of participants targeted	2022-2025	Medium
		The Education and Outreach Officer to submit project proposals on education and outreach for external funding	At least 1 donor-funded project awarded per year starting from June 2022	Number of projects completed by 2025	2022-2025	High
	To enhance visibility and promote the values, uses and importance of the national park through various media (website, social media, articles etc) and organisations like the Department of Tourism and Destination Management Companies (DMCs)	The Education and Outreach Officer to produce materials (leaflets, videos, articles) for SPGA website, Facebook page, local media and general public on the values, uses and importance of the national park and code of conduct to adopt within the PNP	Leaflet uploaded onto the SPGA website by June 2022	Leaflet designed and uploaded by target date	2022	Medium
			500 copies of leaflets including leaflets for Glacis Noir trail printed by June 2022 and disseminated as and when necessary	% of leaflets disseminated annually	2022-2025	Medium
			At least 3 articles/news published or broadcasted in local media per year	Number of materials produced and disseminated as per target	2022-2025	Medium
			At least 1 short video or article contributed per month to the SPGA website (six 3-5mins videos & 6 articles per year)	Number of materials produced and disseminated as per target	2022-2025	Medium
			At least 1 short video, article or photos contributed per week to the SPGA Facebook	Number of visitors on webpage and other social media pages	2022-2025	Medium

		The Education and Outreach Officer to promote the park through organisations like the Department of Tourism and Destination Management Companies (DMCs)	At least 2 promotional materials produced per year starting July 2022	Number of promotional materials produced & disseminated annually	2022-2025	Low
		Produce a documentary covering interesting aspects of the PNP	1 documentary completed by October 2023	Documentary completed and aired on SBC by target date	2023	Medium
			100 copies of documentary available by October 2023	Number of copies of documentary disseminated or sold to visitors annually	2023-2025	Medium
		Produce information boards to demarcate the park	At least 2 information boards to demarcate the park produced by August 2022	2 information boards produced and installed on site as per target date	2022	Medium
		Produce signboards for guidance within the park	Produce at least 10 signboards for guidance within the park by August 2022	10 signboards produced and installed on site as per target	2022	Medium
	To assess the effectiveness of the education, awareness and outreach programme	The Education and Outreach Officer to conduct a survey every two years of students (Kindergarten to University) and the general public	1 survey of student and the general public conducted every two years starting April 2022	% of students with enhanced awareness and or behaviour change	2022-2025	Low
				% of the general public with enhanced awareness and or behaviour change		

### 3.7. Community-based Engagement in protected area management

Provide and facilitate opportunities for all levels of the community to actively engage in the protection and management of the park	To develop and implement a community engagement plan based on SPGA communication strategy that will provide opportunities for civil society groups, research institutes, universities, local businesses and other interested community members to participate in management activities of the park	The Education and Outreach Officer to develop and implement a community engagement plan	Community engagement plan produced by July 2022	Community engagement plan produced by target date	2022	Medium
		The Education and Outreach Officer to prepare and submit project proposals for external funding for community engagement in national park management in line with the community engagement plan	At least one donor-funded project awarded every 2 years starting August 2022	Number of donor-funded project awarded every 2 years as per target	2022-2025	Medium
		The CEO to explore co-management opportunities with interested civil society groups and local businesses	At least 2 co-management agreements established during September 2022	Number of co-management agreements established by target date	2022	Medium



		Engage civil society groups and local businesses in co-management opportunities	At least 2 organisations / persons engaged into co-management by September 2022	Number of organisations / persons engaged into co-management by target date	2022	Medium
			At least 3 community events conducted annually for the public to participate in management activities of the park as from October 2022	Number of community events conducted annually	2022-2025	High
				Number of participants engaged annually		
				Number of incidences of poaching etc decreased compared to pre-co-management levels in relation to target		
			At least 5 hectares rehabilitated annually in co-management partnerships as from 2022 (linked to section 3.8)	Number of hectares rehabilitated annually in co-management partnerships	2022-2025	High
			At least 1 km of firebreaks cleared and maintained annually in co-management partnerships as from 2022	Lengths of firebreaks cleared and maintained annually in co-management partnerships in relation to target	2022-2025	High
			At least 1 new trail set up and maintained in co-management partnerships as from 2023	Number of new trails set up and maintained in co-management partnerships in relation to target	2023	Low
		Generate and collect revenue from co-management ventures	Revenue from co-management ventures generated annually as from December 2022	Amount of revenue in Seychelles rupees generated from co-management partnerships	2022-2025	High
<b>3.8. Knowledge creation, Research and Monitoring</b>						
Conduct and promote research and monitoring that enhances knowledge	To set up a Research and Monitoring Unit on Praslin by 2022	Recruit a Research Officer	Contract signed with Research Officer by January 2022	Contract signed with Research Officer by target date	2022-2025	High
	To conduct inventories of species and ecosystem-types during 2022-2024	With the assistance of external consultants/researchers, conduct inventories of plants, amphibians, reptiles, fish, invertebrates, fungus, lichens and ecosystem-types	At least 1 inventory session conducted annually starting March 2022 to March 2024	Number of biodiversity inventories and explorations conducted as per target	2022-2024	Medium

and guide the management of the park.		With the assistance of external consultants/researchers, explore and document the ridges and slopes near Mt. Takamaka and north of the northern limit of the national park	1 exploration conducted between March and April 2022	Updated number of endemic, indigenous and exotic species in the national park by target date	2022	Medium
		With the assistance of external consultants/researchers, undertake detailed biological survey of all 31 wetlands (Fond Boffay & Nouvelle Decouverte rivers, marshes and swamps) of the national park	Detailed biological surveys of all wetlands conducted between March and July 2022	Location and extent of biodiversity hotspots (species and ecosystem-types)	2022	Medium
				Inventory list of animals, plants and ecosystem-types		
				Availability of survey reports, maps and data		
		With the assistance of external consultants/researchers, develop and implement long-term freshwater monitoring to detect changes in species composition and abundance	Freshwater ecosystems monitored annually as from February 2022	Annual monitoring status report produced	2022-2025	Medium
		SPGA staff to conduct an exercise to record GPS locations of Coco-de-mer trees in the park	All Coco-de-mer trees geo-located by December 2023	% of Coco-de-mer trees geo-located by target date	2023	Low
	To collect good baseline data on climate change and impacts on biodiversity	Install manual and/or (part-) automated temperature and rainfall/humidity meters in a few locations in the park including at SPGA offices)	At least 3 meters installed	Number of meters installed	2022	Low
		With the assistance of external consultants/researchers, regularly collect and analyse the weather data	Climate data downloaded and analysed annually	Baseline data available	2022-2025	Low
	To undertake taxonomic revisions of key plant species in the PNP	With the assistance of the National Herbarium, undertake taxonomic revisions of Bwa koulev ( <i>Psychotriadupontiae</i> ), Lafisel mov ( <i>Seychellaria</i> ), Arouroute de l'Inde ( <i>Protarumsechellarum</i> ), Bwa kato ( <i>Brexiamicrocarpa</i> ), an	National Herbarium staff to train SPGA Research Officer on scientific procedures of taxonomic revisions between 2023 and 2025	SPGA Research Officer trained on scientific procedures of taxonomic revisions as per target	2023-2025	Medium
			At least 1 taxonomic revision published by 2025	Number of taxonomic revisions published by target date	2025	Medium

		unidentified <i>Cynorkis</i> (orchid) at Fond Azore and ferns of the genus <i>Antrophyum</i>		% or number of taxonomic revisions undertaken by 2025	2022-2025	Low
		During explorations, identify other gaps, research needs and priority areas for research and monitoring	Exploration gaps and research needs identified between 2022 and 2024	Number of research gaps identified by target date	2024	Medium
	To develop and implement a management-orientated research and monitoring programme	The Research Officer to develop a management-orientated research and monitoring programme	Management-orientated research and monitoring programme developed by April 2022	Management-orientated research and monitoring programme developed by target date	2022	Medium
		The Research Officer to implement a management-orientated research and monitoring programme	At least 10 priority areas identified for research and monitoring by April 2022	Number of priority areas identified for research and monitoring by 2022	2022	High
			At least 5 priority areas under research and monitoring by December 2023	% of priority areas researched and monitored	2023	
		The Research Officer to submit project proposals to project donors for research needs	At least 1 donor-funded project awarded every 2 years starting 2022	% and overall number of research and monitoring undertaken		
				Number of donor-funded project awarded by target date	2022-2025	High
				Number of joint research and monitoring undertaken by target date	2021-2025	Medium
		Undertake annual review of research carried out as per the Management-orientated research and monitoring programme	Annual review of research undertaken in the PNP prepared from December 2022 onwards	% of projects/research/monitoring completed	2022-2025	Medium
				% of projects/research/monitoring ongoing		
	To develop and maintain a data management system and or partner with institutions that have developed similar data systems	With the assistance of external consultants set up a database for all data collected in the PNP	PNP Database set up by December 2022	PNP Database set up by target date	2022	Medium

	To advertise the priority research and monitoring programme annually as of 2022 and collaborate with research institutions to implement	The Research Officer to advertise the priority research and monitoring programme annually to research institutions and universities	Agreements signed with at least 2 research institutions and or universities by December 2022	Number of agreements signed with institutions and or universities by target date	2022	Medium	
	To communicate research results to relevant stakeholders annually e.g. tour guides to enhance client experience	The Research Officer and the Education and Outreach officer to disseminate research results in layman's' terms	At least 2 information briefs disseminated annually starting July 2022	Number of information briefs disseminated annually	2022-2025	Medium	
3.9. Surveillance and Enforcement							
Enhance surveillance and ensure an adequate level of compliance with legislations and regulations of the park	To strengthen the surveillance and enforcement programme	Increase the number of patrols done in the PNP	Patrols conducted 2-3 times a week	Number of patrols undertaken as per target	2021	Medium	
		Work with the Police Department to conduct regular patrolling	At least 50% of patrols done in conjunction with the Police Department	Number of staff engaged in patrolling	2022	Medium	
	To enhance co-operation and coordination between SPGA and relevant enforcement authorities e.g. Police department	Enhance dialogue/communication between SPGA and relevant enforcement authorities plus enhancing their awareness of pertinent issues		Number of illegal cases intercepted and prosecuted	2021-2025	Medium	
				Number of cases of poaching decreased compared to previous year (s)	2021-2025	Medium	
	To enhance knowledge and capability of staff in law enforcement, legislations and regulations of the park	Conduct annual staff training in legislations and regulations of the park and in enforcement	At least 50% of staff trained in law enforcement per year	% of staff trained in law enforcement by target date	2021-2025	Medium	
3.10. Invasive Alien Species Managementand Biosecurity measures							
Reduce threats to native biodiversity through the implementation of a long-term management plan for Invasive	To conduct an assessment of IAS in the park and prioritise species and areas for management	The Research and Monitoring Unit with external consultants/researchers to undertake an assessment of IAS in the park (species occurrence, distribution, abundance & spread) and prioritise species and areas for management.	IAS assessment undertaken between January and June 2023	Number, species, GIS location and abundance of IAS in the park	2023	High	
		The Research officer to apply for donor-funded projects to assist with IAS assessment in the park	At least 1 donor-funded project to assist with IAS assessment in the park awarded in January 2023	Map of distribution of IAS in the park			
				List of priority species and areas for management			

Alien Species	To develop and implement an IAS management plan	The Research and Monitoring Unit to develop and implement an IAS management and Biosecurity plan using data from the IAS assessment	IAS management and Biosecurity plan implemented as from July 2023	Number or % of priority IAS managed (eradicated or controlled)	2023	High
		SPGA to sub-contract some IAS management activities to local contractors	At least 2 ha under IAS management per year starting July 2023	Number of hectares under IAS management annually	2023-2025	High
				Number of hectares eradicated of IAS		
	To develop projects including joint research and monitoring to implement the IAS management and Biosecurity plan	The Research and Monitoring Unit to develop projects, joint research and monitoring on IAS	At least 1 external donor-funded project/joint research on IAS awarded every 2 years starting July 2023	Number of external donor-funded project/joint research on IAS awarded as per target	2023-2025	High
				% of projects/research completed		
				At least 1 organisation involved in IAS projects/research and monitoring starting July 2023	Number of organisations involved in IAS projects/research and monitoring by target date	2023-2025
	To develop and implement an IAS education and awareness programme	The Research officer and the Education and Outreach officer to develop and implement an IAS education and awareness programme. The programme to include field activities like removal of IAS and replanting with natives, site visits, hands-on learning activities, IAS identification, articles, videos and photo competitions, story-telling, artwork and crafts etc	Minimum 3 IAS education and awareness activities per year starting October 2023	Number of IAS education and awareness activities per year	2023-2025	Medium
			At least 50% youths participating in the activities per year starting October 2023	Number of youths participating in the activities annually	2023-2025	Medium
			At least 100 adults participating in the activities annually starting October 2023	Number of adults participating in the activities	2023-2025	Medium
			At least 5 organisations participating in the activities annually starting October 2023	Number of organisations participating in the activities	2023-2025	Medium
3.11. Forest Fire management						
Ensure procedures are in place for prevention and proper	To contribute to the revision of the Forest fire contingency plan	Provide input to the revision of the Forest fire contingency plan	Provide input to the revision of the Forest fire contingency plan by December 2021	Updated forest fire contingency plan by target date	2021	Medium
		Determine the role of SPGA in forest fire fighting	Determine the role of SPGA in forest fire fighting by December 2021	Role determined as per target date	2021	Medium

management of forest fires	To enhance capacity for forest fire fighting	Based on the role of SPGA in forest fire fighting, conduct appropriate training to enhance the skills of staff	Appropriate training to enhance the skills of staff conducted annually as from January 2022	Number or % of training and staff trained	2022-2025	Medium
		Based on the role of SPGA in forest fire fighting, enhance forest fire-fighting equipment and accessories	Purchase forest fire-fighting equipment and accessories as per the itemized list starting January 2022	% of forest firefighting equipment purchased as per target	2022-2025	Medium
	To develop and implement early warning systems particularly during the dry season	Prepare TV and Radio spots to be aired on SBC prior and during the dry season	At least 3 spots produced and aired per year starting May 2022	Number of spots produced and aired per year	2022-2025	Medium
		Install a fire danger rating system to warn the public of potential fire risks	Fire danger rating system to warn the public of potential fire risks installed by May 2022	Fire danger rating system in place by target date	2022	Medium
				% reduction in forest fires or fire incidences		
		Install “No smoking” signs at the starting points of trails and in key areas along the main road within the park	1 “No smoking” sign erected at Glacis Noir trail by June 2022	Number of signboards erected by target date	2022	High
			4 “No smoking” signs erected in key areas along the main road within the park by June 2022	Number of signboards erected by target date	2022	High
	To effectively manage the firebreak and the network of access paths	Maintain the firebreak access path network by outsourcing to local contractors	Maintenance of the firebreak access path network outsourced by October 2021 and maintained annually	% offirebreaks maintained annually	2021-2025	High
		Consider turning some of the access paths into trails for hiking, running or cycling that communities can adopt and maintain	At least 3 access paths enhanced for hiking, running or cycling and adopted by community groups by 2025	Number of access paths maintained by target date	2025	Low
				Number of access paths adopted by community groups and maintained	2025	Low
		Undertake a review of requirements for numbers, position, design and new ideas for the maintenance of firebreaks e.g. green barriers	Firebreak review completed by end December 2021	Review completed by target date	2021	Low
			At least 1 innovative way to maintain firebreaks implemented by April 2022	Number of innovative ways to maintain firebreaks implemented by target date	2022	Low
	To rehabilitate post-fire degraded sites in collaboration with local partners	Research Officer to apply for donor funds to implement	At least 1 project proposal submitted by April 2022	Number of donor funds awarded as per target	2022	Medium

		rehabilitation projects in post-fire degraded sites				
		Agreement for signature with project partners to rehabilitate post-fire degraded land	At least 1 agreement signed by July 2022	Signed agreement by target date	2022	Medium
		Produce and plant native seedlings for rehabilitation	At least 3000 seedlings produced and planted annually starting July 2022	% of seedlings planted annually % of plant survival annually	2022-2025	High
			At least 5 ha rehabilitated annually starting July 2022	Number of hectares of post-fire degraded sites rehabilitated annually	2022-2025	Medium
	To implement lifelong education and awareness programmes on causes and impacts of forest fires etc.	Conduct a forest fire education and awareness campaign. The programme to include field activities like site visits, hands-on learning, articles, short documentaries, posters, videos and photo competitions, story-telling and artwork etc	Forest fire education and awareness campaign started by May 2022 and repeated annually	Number of education and awareness activities annually	2022-2025	Medium
<b>3.12. Negative impacts on nature from unregulated visitor use</b>						
Minimise damage to the park's natural habitats by park visitors and improve the level of knowledge of tour guides	To improve the knowledge of tour guides on the park's biodiversity values and codes of conduct within the park	The Research officer and Education and Outreach officer to provide training and resource/knowledge materials to tour guides	At least 1 training session and resource/knowledge materials given to tour guides annually starting from August 2022	Number of trainings provided to tour guides as per target	2022-2025	Low
				Number of tour guides trained		
	To enhance awareness of visitors on park values and codes of conduct when visiting the national park	The Education and Outreach officer and the Research officer to produce leaflet on codes and conduct within the park for the SPGA website	At least 1 leaflet with information on code of conduct whilst visiting the PNP uploaded on SPGA website by April 2022	Code of conduct leaflet uploaded on SPGA website as per target	2022	Low
		Install an information board with codes of conduct and Do's and Don'ts whilst in the park	At least 2 boards with Do's and Don'ts installed by June 2022	Number of boards installed by target date	2022	Low
	To ensure that tourism operators are familiar with management practice codes to reduce impact onto the PNP	The Education and Outreach officer to develop and share management practice codes with tourism operators	Management practice codes prepared and shared with tourism operators by April 2022	Management practice codes produced and shared by 2022	2022	Low
			Negative impacts reduced by 2025	% of reduction in damage to park by visitors by 2025	2025	Low

<b>3.13. Successful implementation of the management plan over the years</b>						
Measure the successful implementation of the management plan over the years	To measure the successful implementation of the management plan over the years	SPGA to measure the number of indicators achieved annually	At least 25% of the indicators achieved annually	% or number of indicators achieved annually	2021-2025	High
	To conduct a mid-term review of the management plan	SPGA to conduct a mid-term review of the management plan	A complete review of the plan done by June 2023	Review completed by target date	2023	High



## 5. Costed plan of implementation

Table 5. Costed plan of implementation

Objectives	Strategy	Activities	Targets	Budget					Comments
3.1. Protected areas legislation and policy				2021	2022	2023	2024	2025	
Establish relevant legal framework to support management of the park	To ensure that the protected area is designated as a ‘National Park’ under the new ‘Nature Reserves and Conservancy Bill’	Staff to review the bill, provide comments and ensure that pertinent aspects are included into the final bill	All comments are included into the final bill by December 2021						Incorporated into staff salaries
		Prepare regulations for the park such as zonation scheme for the park (see activity below)and new regulation for law enforcement with higher penalties	At least 1 regulation prepared for the park by December 2022						Incorporated into staff salaries
	To propose and implement a zoning scheme for the national park which will include the following zones – conservation, sustainable resource use, rehabilitation, tourism and recreation, and a buffer zone which can be a 'soft' forestry production area. The zoning can be developed either as a regulation under the law or as a policy within SPGA	Develop terms of reference, identify and contract consultant to undertake the zoning of the park	Consultant contracted by January 2022						A 20-day consultancy at \$300 daily
		Consultant to produce a report with the zoning scheme and maps	Consultancy report including zonation map (with GPS) showing areas delineated for conservation, sustainable resource use and forestry, rehabilitation, tourism and recreation, and buffers developed by April 2022	63,000	63,000				A 20-day consultancy at \$300 daily
		SPGA to incorporate the new zoning scheme into the management plan and regulations	Zoning scheme incorporated into the management plan and regulation by end 2022						Incorporated into staff salaries
3.2. Financial management									
Establish relevant	To develop and implement a sustainable financial	Develop terms of reference, identify and	Consultant contracted by January 2022						

financial framework to support management of the park	management system (business plan) for the national park where budget is assigned to management actions and regularly reviewed	contract a consultant to develop the business plan							
		Consultant to produce a report including the business plan	Consultancy report including a business plan produced by March 2022		63,000				A 10-day consultancy at \$300 daily
		SPGA to implement the business plan	Business plan implementation starting June 2022						Incorporated into staff salaries
	To develop and implement a nature-based tourism plan to generate revenue for the park and to provide visitors with access and a diversity of experience through high quality and unique environmental assets.	Develop terms of reference, identify and contract a consultant to undertake a nature-based tourism plan	Consultant contracted by January 2022						Incorporated into staff salaries
		Consultant to produce a report including a nature-based tourism plan	Consultancy report including a nature-based tourism plan produced by March 2022		63,000				A 10-day consultancy at \$300 daily
		Consultant to prepare a list of services/activities/products available to visitors in the PNP and integrate it into the nature-based tourism plan	List of services/activities/products prepared by February 2022 and included into the nature-based tourism plan						
		Consultant to develop a marketing plan to market/promote nature-based tourism. This can be integrated into the nature-based tourism plan	Marketing plan developed by March 2022						
		SPGA to start implementation of the nature-based tourism plan	Nature-based tourism plan implementation starting June 2022						Incorporated into staff salaries
		Work with the Department of Tourism, Destination Management Companies (DMCs) and other businesses to advertise the park	PNP to feature in minimum 1 advert or promotional material disseminated by STB & DMCs per year starting 2022		5,000	5,000	5,000	5,000	Advert production cost
			At least 3 companies targeted for marketing						

	annually starting from 2022						
	Link SPGA website to STB and at least 3 DMCs by December 2021						
Produce or contribute to promotional materials like those commissioned by STB	At least 2 promotional materials produced per year starting December 2021		10,000	10,000	10,000	10,000	
Introduce visitor fees for the Glacis Noir trail (after the trail has been enhanced as per section 3.4)	Sales of tickets for Glacis Noir trail implemented by September 2022		1,500	1,500	1,500	1,500	Printing of tickets
	Increase of 20% in visitor numbers annually starting from 2023 in line with SPGA strategic plan						
As part of the nature-based tourism plan work with businesses to produce merchandise that promote nature (souvenirs, crafts, paintings, t-shirts etc)	At least 3 local businesses/artisans involved in such revenue-generation activities by April 2022		3,000	3,000			Inter-island travel costs for meetings, visits etc
	At least 10 merchandises specific to the PNP produced by local artisans, available for purchase by September 2022						
	At least 80% investors making a financial contribution to SPGA annually as from December 2022						
As part of the nature-based tourism plan open up new trails for hiking, cycling, fitness etc	At least one new trail (payable by visitors) opened by December 2023			150,000			
As part of the nature-based tourism plan collect revenues for the management of the PNP	25% increase in annual revenue generation in line with SPGA strategic plan						Incorporated into staff salaries

	To apply for external funding grants which are invested into management plan priorities	Search for external donors to fund projects as part of the management of the park	List of grants/donors produced by October 2021						Incorporated into staff salaries
		Prepare project proposals in line with management priorities	List of project concepts prepared by December 2021						Incorporated into staff salaries
		Implement donor funded projects as per the management plan priorities	At least one project implemented per year starting from January 2022						Incorporated into staff salaries
	To explore ways that commercial water extraction can financially contribute to the protection of water catchments. This should not apply to non-commercial public use of water as there is already an environmental charge on water bills	Undertake discussions with businesses on financial contributions from commercial water extractions	At least 2 companies engaged in discussions by October 2021	2,000	2,000				Travel to Praslin for meetings
		Collect financial contributions from commercial water extraction	At least 2 companies making annual contributions as from January 2022						
3.3. Human resource management									
Establish relevant human resource frameworks to support management of the park	To review staffing levels and requirements for effective and efficient management of the park. Staffing should take into account the right level of academic qualifications and field experience.	The Human Resource department with the assistance of an external evaluator to review management structure and staffing (level of education/experience, staffing requirements and financial packages)	Assessment completed by December 2021						Cost covered under the GOS-UNDP-GEF PAF project
	To train, build capacity and develop competencies of staff in various core areas	The Human Resource department to undertake a staff training needs assessment and prioritize training needs	Assessment completed by December 2021						Incorporated into staff salaries
		The Human Resource department to prepare an annual training programme	Annual training plan prepared by October 2021						Incorporated into staff salaries
		Implement the annual training programme	At least 50% of staff receive training annually	50,000	50,000	50,000	50,000	50,000	External trainers, travel,

									accommodation, other logistics
		Organise joint training sessions with other similar organisations	At least 2 joint-training sessions annually starting from January 2022	35,000	35,000	35,000	35,000	35,000	External trainers, travel, accommodation, other logistics
To implement planning tools for effective and efficient daily management of the park	Establish clear and concise annual workplans which are translated into quarterly, monthly and weekly workplans	Each staff or unit to have their own weekly/monthly/quarterly /annual workplan at the beginning of each year							Incorporated into staff salaries
	Review workplans every quarter to ensure achievements of all outputs	100% of workplans reviewed every quarter starting 2021							Incorporated into staff salaries
	Produce reports against management actions on a weekly, monthly, quarterly and annual basis	Each staff to produce a report against management actions on a weekly, monthly, quarterly and annual basis							Incorporated into staff salaries
	Develop and implement an overall leadership index of performance to assess senior staff (CEO and Directors) performance in delivery of tasks	Above 80% performance in delivery of tasks per year							Incorporated into staff salaries
	Develop and implement an overall staff output index of performance to assess staff performance in delivery of tasks	Above 80% performance in delivery of tasks per year							Incorporated into staff salaries
	With the assistance of external trainers provide trainings to staff for the use of planning and management tools like Asana and Instagantt to better plan daily work duties and to report on performance indicators	At least 50% of staff receive training annually		25,000			25,000		External trainer's fee, travel, accommodation, other logistics

	To establish joint work programmes with other organisations particularly where staff or skills are limited	Establish partnerships with other organisations, plan and undertake joint work programmes particularly where staff or skills are limited	At least 2 joint-work programmes annually as from October 2021	2,000	2,000	2,000	2,000	2,000	Basic logistical needs
<b>3.4. Infrastructure management</b>									
Establish relevant infrastructure framework to support management of the park	To maintain nursery facilities to support management activities of the PNP	Install new boundary fence and door	1 new boundary fencing and door by January 2022		150,000				
		Replace shade cloth over entire nursery	100% of shade cloth replaced by December 2021		52,000				
		Install new nursery tables	12 tables for nursery constructed by December 2021		80,000				
		Install new irrigation system	Install new irrigation system by December 2021		20,000				
		Conduct levelling of the nursery floor and entrance	Levelling of the nursery floor and entrance done by October 2021		2,000				
		Install weed control plastic cover on the floor	Install weed control plastic cover on the floor by October 2021		7,000				
		Repair both the shed and the soil storage areas	Repair both the shed and the soil storage areas by December 2021		100,000				
		Prepare plants in the nursery for reforestation, rehabilitation and sales	10,000 seedlings produced per year	30,000	75,000	75,000	75,000	75,000	
	To purchase equipment needed for staff to implement their tasks	Purchase equipment needed as per the itemised list of equipment and items	100% of equipment purchased and issued by 2023	30,000	80,000	60,000			
		Prepare a maintenance and replacement plan for essential equipment and implement it	Maintenance and replacement plan for essential equipment in place by December 2021 and updated annually				10,000	10,000	
	To purchase a truck to support operations of the park	Purchase a truck to support operations of the park	New truck purchased by December 2022		1,000,000				

	To enhance facilities on Glacis Noir trail to enhance visitors experience	Repair and maintain Glacis Noir trail and drainage system	Glacis Noir trail drains and path repaired by June 2022		150,000					
		Install railings on steep slippery slopes on the trail	Install railings on steep slopes on the trail by June 2022		75,000					
		Repair viewpoint kiosk at the end of the Glacis Noir trail	Glacis Noir viewpoint kiosk fixed by June 2022		200,000					
		Install benches along the trail and the Glacis Noir wetland	At least 5 benches installed on the trail and around the wetland by June 2022		25,000					
		Install information boards on interesting aspects of the park, and signage and plant plaques	At least 2 information boards, 3 signboards and 30 plant plaques installed on Glacis Noir trail by June 2022		35,000					
	To reduce the amount of litter observed in the park	Prepare and install “ <i>No littering</i> ” signs at the starting point of trails and key areas along the main road within the park	2 signboards erected prompting visitors not to litter, by December 2021	20,000						
		Install litter bins at the start of trails	2 litter bins installed at the start of the Glacis Noir trail by December 2021	5,000						
		Introduce the sale of biodegradable rubbish/litter bags to visitors on the trail. SPGA logo can be placed on the bag	Biodegradable rubbish/litter bags introduced by September 2022		15,000	15,000	15,000	15,000		
3.5. Sustainable forestry resource use										
To ensure long-term harvest levels, forest productivity and	To re-evaluate forestry plantations and conduct a comprehensive survey of all plantations (old & current ones) in terms of their location, tree species,	Develop terms of reference and contract a consultant to re-evaluate forestry plantations and conduct a comprehensive survey of all plantations	Consultant contracted by November 2021		94,500					A 15-day consultancy at \$300 daily

conservation of forest resources to generate revenue to support the management of the park and for the benefit of local communities	stock size/volume and age, tree diameter and average height and general health	Consultant to digitize old forestry plantations map produced by Henry for use in re-evaluating the stocks	Old forestry plantations map digitised and available by December 2021						
		Consultant to map the extent of all forestry plantations using forestry methods such as those used in Henry' time	Mapping of all forestry plantations by February 2022						
		Consultant to evaluate forestry stocks in the PNP providing their location, size/volume and age, tree species, tree diameter and average height and general health	Forestry stocks in the PNP evaluated by March 2022						
	To explore the use of current and other commercial forestry products including native species that were used in the past and species that were traditionally exploited	List current forestry species and search for other commercial forestry resources, commercial native species and species that were traditionally exploited	List of current and other potential commercial forestry resources prepared by October 2021						
		Conduct a cost and benefit analysis of new forestry ventures like bamboo-based forestry	Cost and benefit analysis of new forestry ventures conducted by March 2022						
	To effectively manage forestry plantations for revenue generation for the PNP and for the benefit of local communities	Conduct timber thinning, weeding and other stock management/improvement practices	Conduct timber thinning, weeding and other stock management/improvement practices at least twice a year	20,000	20,000	20,000	20,000	20,000	
		Prepare sites to be re-planted after each harvest	Sites for replanting after each harvest to be prepared at least twice a year	20,000	20,000	20,000	20,000	20,000	
		Produce seedlings of forestry species to replace harvested stocks	Produce a minimum of 3000 seedlings annually to replace harvested stocks	72,000	72,000	72,000	72,000	72,000	2 staff SCR3000 each a month



			Over 50% of forestry species produced are planted annually						to assist with production
		Re-survey all forestry plantations on a periodic basis	All forestry plantations are re-surveyed every 5 years					63,000	A 10-day consultancy at \$300 daily
	To generate revenue from sustainable forest resource use	Harvest stocks as and when necessary	Forestry resources are harvested annually	2,000	2,000	2,000	2,000	2,000	Administrati on procedures
		Produce native seedlings including medicinal plants annually for sale to the public	Produce at least 500 native seedlings annually, including medicinal plants for sale to the public	36,000	36,000	36,000	36,000	36,000	
<b>3.6. Education, Outreach and Visibility</b>									
Develop and implement an education, outreach and visibility programme to enhance staff, visitors and the general public understanding of the values of the park by the use of up-to-date and accurate information	To establish a long-term education, outreach and visibility programme for the PNP	Recruit a qualified Education and Outreach Officer	Contract signed with Education and Outreach Officer by January 2022		240,000	240,000	240,000	240,000	
		The Education and Outreach Officer to develop education, outreach and visibility programmes for (i) staff, (ii) visitors & (iii) the wider community including children	3 education, outreach and visibility programmes for (i) staff, (ii) visitors & (iii) the wider community including children developed by March 2022						Included in salary of Education & Outreach officer
		The Education and Outreach Officer to conduct activities for staff annually	At least 3 activities conducted for staff annually	30,000	30,000	30,000	30,000	30,000	Events, travel, catering cost.
		The Education and Outreach Officer to conduct activities for visitors annually	At least 3 activities conducted for visitors annually e.g. tree planting						
		The Education and Outreach Officer to conduct activities with students (Kindergarten to University)during the holidays	At least 3 activities targeting a minimum of 60 students conducted annually						

		The Education and Outreach Officer to conduct activities for wider community annually	At least 3 activities targeting a minimum 150 participants conducted for wider community annually						
		The Education and Outreach Officer to submit project proposals on education and outreach for external funding	At least 1 donor-funded project awarded per year starting from June 2022						Included in salary of Education & Outreach officer
	To enhance visibility and promote the values, uses and importance of the national park through various media (website, social media, articles etc) and organisations like the Department of Tourism and Destination Management Companies (DMCs)	The Education and Outreach Officer to produce materials (leaflets, videos, articles) for SPGA website, Facebook page, local media and general public on the values, uses and importance of the national park and code of conduct to adopt within the PNP	Leaflet uploaded onto the SPGA website by June 2022						Included in salary of Education & Outreach officer
			500 copies of leaflets including leaflets for Glacis Noir trail printed by June 2022 and disseminated as and when necessary		5,000				
			At least 3 articles/news published or broadcasted in local media per year						Included in salary of Education & Outreach officer
			At least 1 short video or article contributed per month to the SPGA website (six 3-5mins videos & 6 articles per year)		30,000	30,000	30,000	30,000	Cost to produce 6 short videos
			At least 1 short video, article or photos contributed per week to the SPGA Facebook						Included in salary of Education & Outreach officer
		The Education and Outreach Officer to promote the park through organisations like the Department of Tourism	At least 2 promotional materials produced per year starting July 2022	5,000	10,000	10,000	10,000	10,000	Design & printing cost

		and Destination Management Companies (DMCs)							
		Produce a documentary covering interesting aspects of the PNP	1 documentary completed by October 2023			60,000			
			100 copies of documentary available by October 2023			2,000			
		Produce information boards to demarcate the park	At least 2 information boards to demarcate the park produced by August 2022		30,000				Design & printing cost
		Produce signboards for guidance within the park	Produce at least 10 signboards for guidance within the park by August 2022		45,000				Design & printing cost
	To assess the effectiveness of the education, awareness and outreach programme	The Education and Outreach Officer to conduct a survey every two years of students (Kindergarten to University) and the general public	1 survey of students (Kindergarten to University) and the general public conducted every two years starting April 2022		2,000		2,000		Minor logistical expenses
<b>3.7. Community-based Engagement in protected area management</b>									
Provide and facilitate opportunities for all levels of the community to actively engage in the protection and management of the park	To develop and implement a community engagement plan based on SPGA communication strategy that will provide opportunities for civil society groups, research institutes, universities, local businesses and other interested community members to participate in management activities of the park	The Education and Outreach Officer to develop and implement a community engagement plan	Community engagement plan produced by July 2022						Included in salary of Education & Outreach officer
		The Education and Outreach Officer to prepare and submit project proposals for external funding for community engagement in national park management in line with the community engagement plan	At least one donor-funded project awarded every 2 years starting August 2022						Included in salary of Education & Outreach officer
		The CEO to explore co-management opportunities with interested civil	At least 2 co-management agreements established during September 2022		3,000		3,000		Inter-island travel costs

		society groups and local businesses							
		Engage civil society groups and local businesses in co-management opportunities	At least 2 organisations / persons engaged into co-management by September 2022		10,000				Cost of consultative meetings/workshops, travel, catering etc
			At least 3 community events conducted annually for the public to participate in management activities of the park as from October 2022		10,000	10,000	10,000	10,000	In-kind community contribution / voluntarism
			At least 5 hectares rehabilitated annually in co-management partnerships as from 2022 (linked to section 3.8)						
			At least 1 km of firebreaks cleared and maintained annually in co-management partnerships as from 2022						
			At least 1 new trail set up and maintained in co-management partnerships as from 2023			100,000		30,000	
		Generate and collect revenue from co-management ventures	Revenue from co-management ventures generated annually as from December 2022						
<b>3.8. Knowledge creation, Research and Monitoring</b>									
Conduct and promote research and monitoring that enhances knowledge	To set up a Research and Monitoring Unit on Praslin by 2022	Recruit a Research Officer	Contract signed with Research Officer by January 2022		240,000	240,000	240,000	240,000	
	To conduct inventories of species and ecosystem-types during 2022-2024	With the assistance of external consultants/researchers, conduct inventories of	At least 1 inventory session conducted annually starting March 2022 to March 2024		113,400	113,400	113,400		6 days consultancy fee at \$300 daily for 3

and guide the management of the park.		plants, amphibians, reptiles, fish, invertebrates, fungus, lichens and ecosystem-types						experts per year
		With the assistance of external consultants/researchers, explore and document the ridges and slopes near Mt. Takamaka and north of the northern limit of the national park	1 exploration conducted between March and April 2022		75,600			4 days consultancy fee at \$300 daily for 3 experts
		With the assistance of external consultants/researchers, undertake detailed biological survey of all 31 wetlands (Fond Boffay & Nouvelle Decouverte rivers, marshes and swamps) of the national park	Detailed biological surveys of all wetlands conducted between March and July 2022		151,200			8 days consultancy fee at \$300 daily for 3 experts
		With the assistance of external consultants/researchers, develop and implement long-term freshwater monitoring to detect changes in species composition and abundance	Freshwater ecosystems monitored annually as from February 2022		94,500	94,500	94,500	6 days consultancy fee at \$300 daily for 2.5 experts per year.
		SPGA staff to conduct an exercise to record GPS locations of Coco-de-mer trees in the park	All Coco-de-mer trees geo-located by December 2023					Incorporated into staff salaries
	To collect good baseline data on climate change and impacts on biodiversity	Install manual and/or (part)automated temperature and rainfall/humidity meters in a few locations in the park including at SPGA offices)	At least 3 meters installed		90,000			SM4 sound meter ca. SR25000 each, temperature/humidity meter ca.

									SR1,200 each + shipping
	With the assistance of external consultants/researchers, regularly collect and analyse the weather data	Climate data downloaded and analysed annually							Done as part of collaboration with external institutions/ Universities
To undertake taxonomic revisions of key plant species in the PNP	With the assistance of the National Herbarium, undertake taxonomic revisions of Bwa koulev ( <i>Psychotriadupontiae</i> ), Lafisel mov ( <i>Seychellaria</i> ), Arouroute de l’Inde ( <i>Protarumsechellarum</i> ), Bwa kato ( <i>Brexiamicrocarpa</i> ), an unidentified <i>Cynorkis</i> (orchid) at Fond Azore and ferns of the genus <i>Antrophyum</i>	National Herbarium staff to train SPGA Research Officer on scientific procedures of taxonomic revisions between 2023 and 2025			44,100	44,100	44,100	7 days consultancy fee at \$300 daily for 1 expert per year.	
		At least 1 taxonomic revision published by 2025						Incorporated into Research Officer salary	
	During explorations, identify other gaps, research needs and priority areas for research and monitoring	Exploration gaps and research needs identified between 2022 and 2024						Incorporated into Research Officer salary	
To develop and implement a management-orientated research and monitoring programme	The Research Officer to develop a management-orientated research and monitoring programme	Management-orientated research and monitoring programme developed by April 2022						Incorporated into Research Officer salary	
	The Research Officer to implement a management-orientated research and monitoring programme	At least 10 priority areas identified for research and monitoring by April 2022						Incorporated into Research Officer salary	
		At least 5 priority areas under research and monitoring by December 2023						Incorporated into Research	

									Officer salary
		The Research Officer to submit project proposals to project donors for research needs	At least 1 donor-funded project awarded every 2 years starting 2022						Incorporated into Research Officer salary
		Conduct joint research and monitoring with institutions and universities	At least 2 joint research and monitoring undertaken between 2022 and 2025	2,000	2,000	15,000	15,000	15,000	Logistical costs
		Undertake annual review of research carried out as per the Management-orientated research and monitoring programme	Annual review of research undertaken in the PNP prepared from December 2022 onwards						Incorporated into Research Officer salary
	To develop and maintain a data management system and or partner with institutions that have developed similar data systems	With the assistance of external consultants set up a database for all data collected in the PNP	PNP Database set up by December 2022		50,400				8 days consultancy fee at \$300 daily for 1 expert.
	To advertise the priority research and monitoring programme annually as of 2022 and collaborate with research institutions to implement	The Research Officer to advertise the priority research and monitoring programme annually to research institutions and universities	Agreements signed with at least 2 research institutions and or universities by December 2022						Incorporated into Research Officer salary
	To communicate research results to relevant stakeholders annually e.g. tour guides to enhance client experience	The Research Officer and the Education and Outreach officer to disseminate research results in layman's' terms	At least 2 information briefs disseminated annually starting July 2022	5,000	5,000	5,000	5,000	5,000	Printing cost
<b>3.9. Surveillance and Enforcement</b>									
Enhance surveillance and ensure an adequate level of compliance with	To strengthen the surveillance and enforcement programme	Increase the number of patrols done in the PNP	Patrols conducted 2-3 times a week						Incorporated into staff salaries
		Work with the Police Department to conduct regular patrolling	At least 50% of patrols done in conjunction with the Police Department						Incorporated into staff salaries

legislations and regulations of the park	To enhance co-operation and coordination between SPGA and relevant enforcement authorities e.g. Police department	Enhance dialogue/communication between SPGA and relevant enforcement authorities plus enhancing their awareness of pertinent issues							
	To enhance knowledge and capability of staff in law enforcement, legislations and regulations of the park	Conduct annual staff training in legislations and regulations of the park and in enforcement	At least 50% of staff trained in law enforcement per year	5,000	5,000	5,000	5,000	5,000	Training cost
<b>3.10. Invasive Alien Species Management</b>									
Reduce threats to native biodiversity through the implementation of a long-term management plan for Invasive Alien Species	To conduct an assessment of IAS in the park and prioritise species and areas for management	The Research and Monitoring Unit with external consultants/researchers to undertake an assessment of IAS in the park (species occurrence, distribution, abundance & spread) and prioritise species and areas for management.	IAS assessment undertaken between January and June 2023			151,200			14 days consultancy fee at \$300 daily for 2 experts
		The Research officer to apply for donor-funded projects to assist with IAS assessment in the park	At least 1 donor-funded project to assist with IAS assessment in the park awarded in January 2023						Incorporated into staff salaries
	To develop and implement an IAS management plan	The Research and Monitoring Unit to develop and implement an IAS management and Biosecurity plan using data from the IAS assessment	IAS management and Biosecurity plan implemented as from July 2023						Incorporated into staff salaries
		SPGA to sub-contract some IAS management activities to local contractors	At least 2 ha under IAS management per year starting July 2023			360,000	360,000	360,000	3 part-time staff SCR10,000 each per month
	To develop projects including joint research and monitoring to implement the IAS management plan	The Research and Monitoring Unit to develop projects, joint research and monitoring on IAS	At least 1 external donor-funded project/joint research on IAS awarded every 2 years starting July 2023			500,000		300,000	Project costs in 2023 & 2025



			At least 1 organisation involved in IAS projects/research and monitoring starting July 2023						
	To develop and implement an IAS education and awareness programme	The Research officer and the Education and Outreach officer to develop and implement an IAS education and awareness programme. The programme to include field activities like removal of IAS and replanting with natives, site visits, hands-on learning activities, IAS identification, articles, videos and photo competitions, story-telling, artwork and crafts etc	Minimum 3 IAS education and awareness activities per year starting October 2023 At least 50% youths participating in the activities per year starting October 2023 At least 100 adults participating in the activities annually starting October 2023 At least 5 organisations participating in the activities annually starting October 2023			15,000	15,000	15,000	Small logistical costs
<b>3.11. Forest Fire management</b>									
Ensure procedures are in place for prevention and proper management of forest fires	To contribute to the revision of the Forest fire contingency plan	Provide input to the revision of the Forest fire contingency plan	Provide input to the revision of the Forest fire contingency plan by December 2021						Incorporated into staff salaries
		Determine the role of SPGA in forest fire fighting	Determine the role of SPGA in forest fire fighting by December 2021						Incorporated into staff salaries
	To enhance capacity for forest fire fighting	Based on the role of SPGA in forest fire fighting, conduct appropriate training to enhance the skills of staff	Appropriate training to enhance the skills of staff conducted annually as from January 2022		3,000	3,000	3,000	3,000	Training cost
		Based on the role of SPGA in forest fire fighting, enhance forest fire-fighting equipment and accessories	Purchase forest fire-fighting equipment and accessories as per the itemized list starting January 2022		55,000	35,000	15,000	15,000	

	To develop and implement early warning systems particularly during the dry season	Prepare TV and Radio spots to be aired on SBC prior and during the dry season	At least 3 spots produced and aired per year starting May 2022		5,000	5,000	5,000	5,000	Spot production + air time cost
		Install a fire danger rating system to warn the public of potential fire risks	Fire danger rating system to warn the public of potential fire risks installed by May 2022		30,000				
		Install “No smoking” signs at the starting points of trails and in key areas along the main road within the park	1 “No smoking” sign erected at Glacis Noir trail by June 2022		10,000				
			4 “No smoking” signs erected in key areas along the main road within the park by June 2022		40,000				
	To effectively manage the firebreak and the network of access paths	Maintain the firebreak access path network by outsourcing to local contractors	Maintenance of the firebreak access path network outsourced by October 2021 and maintained annually	50,000	100,000	100,000	100,000	100,000	
		Consider turning some of the access paths into trails for hiking, running or cycling that communities can adopt and maintain	At least 3 access paths enhanced for hiking, running or cycling and adopted by community groups by 2025	50,000	50,000	50,000	50,000	50,000	
								150,000	
		Undertake a review of requirements for numbers, position, design and new ideas for the maintenance of firebreaks e.g. green barriers	Firebreak review completed by end December 2021						Incorporated into staff salaries
			At least 1 innovative way to maintain firebreaks implemented by April 2022						Incorporated into staff salaries
	To rehabilitate post-fire degraded sites in collaboration with local partners	Research Officer to apply for donor funds to implement rehabilitation projects in post-fire degraded sites	At least 1 project proposal submitted by April 2022						Incorporated into Research Officer salary
		Agreement for signature with project partners to rehabilitate post-fire degraded land	At least 1 agreement signed by July 2022						Incorporated into staff salaries

		Produce and plant native seedlings for rehabilitation	At least 3000 seedlings produced and planted annually starting July 2022		72,000	72,000	72,000	72,000	Cost of seedling production
			At least 5 ha rehabilitated annually starting July 2022		360,000	360,000	360,000	360,000	3 part-time staff at SCR10,000 per month
	To implement lifelong education and awareness programmes on causes and impacts of forest fires etc.	Conduct a forest fire education and awareness campaign. The programme to include field activities like site visits, hands-on learning, articles, short documentaries, posters, videos and photo competitions, story-telling and artwork etc	Forest fire education and awareness campaign started by May 2022 and repeated annually		15,000	15,000	15,000	15,000	Logistical cost
<b>3.12. Negative impacts on nature from unregulated visitor use</b>									
Minimise damage to the park's natural habitats by park visitors and improve the level of knowledge of tour guides	To improve the knowledge of tour guides on the park's biodiversity values and codes of conduct within the park	The Research officer and Education and Outreach officer to provide training and resource/knowledge materials to tour guides	At least 1 training session and resource/knowledge materials given to tour guides annually starting from August 2022						Incorporated into staff salaries
	To enhance awareness of visitors on park values and codes of conduct when visiting the national park	The Education and Outreach officer and the Research officer to produce leaflet on codes and conduct within the park for the SPGA website	At least 1 leaflet with information on code of conduct whilst visiting the PNP uploaded on SPGA website by April 2022						Incorporated into staff salaries
		Install an information board with codes of conduct and Do's and Don'ts whilst in the park	At least 2 boards with Do's and Don'ts installed by June 2022		15,000				
	To ensure that tourism operators are familiar with management practice codes to reduce impact onto the PNP	The Education and Outreach officer to develop and share management practice codes with tourism operators	Management practice codes prepared and shared with tourism operators by April 2022						Incorporated into staff salaries
			Negative impacts reduced by 2025						Incorporated into staff salaries

3.13. Successful implementation of the management plan over the years									
Measure the successful implementation of the management plan over the years	To measure the successful implementation of the management plan over the years	SPGA to measure the number of indicators achieved annually	At least 25% of the indicators achieved annually						Incorporated into staff salaries
	To conduct a mid-term review of the management plan	SPGA to conduct a mid-term review of the management plan	A complete review of the plan done by June 2023			126,000			A 20-day consultancy at \$300 daily

## 6. Budget summary

The total budget for the implementation of this management plan is calculated at **SCR 19,328,825** for the 2021 to 2025 period. The budget is summarised into annual predicted expenditure (Table 6a) and expected repartition by each management strategy (Table 6b).

Table 6a. Estimated budget (SCR) for the implementation of the Praslin National Park management plan (2021- 2025) on a yearly basis.

Yearly Budget					
2021	2022	2023	2024	2025	5-year Total
1,731,285	5,827,385	4,544,985	3,412,785	3,812,385	19,328,825

Table 6b. Estimated budget (SCR) for the implementation of the Praslin National Park management plan (2021- 2025) by management strategies.

Strategies	5-year Budget (SCR)
Protected areas legislation and policy	126,000
Financial management	352,000
Human resource management	485,000
Infrastructure management	2,501,000
Sustainable forestry resource use	907,500
Education, Outreach and Visibility	1,421,000
Community-based Engagement in protected area management	186,000
3.8. Knowledge creation, Research and Monitoring	2,251,700
Surveillance and Enforcement	25,000
Invasive Alien Species Management	2,076,200
Forest Fire management	2,870,000
Negative impacts on nature from unregulated visitor use	15,000
Successful implementation of the management plan over the years	126,000
<b>TOTAL</b>	<b>13,342,400</b>
Park administration (Salaries & office running cost)	5,986,425
<b>GRAND TOTAL</b>	<b>19,328,825</b>

Budget will come from various sources including:

1. The SPGA's recurrent and capital budget including budget arising from its operation,
2. Various donor funded projects which are currently being implemented or are expected to be implemented within the Praslin National Park during the next five years (e.g. GOS-GEF-UNDP Ridge to Reef, GOS-GEF-UNDP Ecosystem-based adaptation, GOS-GEF-UNDP Protected Areas Finance projects etc.).
3. Collaboration/partnerships with other local and international organisations/institutions.

## 7. References

## 8. Annexes

### Annex 1. Praslin National Park Designation Order

#### **National Parks (Praslin) (Designation) Order**

*[11th June, 1979]*

- 1 This Order may be cited as the National Parks (Praslin) (Designation) Order.
- 2 The area described in the Schedule is hereby designated as a National Park.

#### **SCHEDULE**

The area is 800 acres in size and is represented on a plan deposited in the office of the Director of Surveys and filed as ML/ADN/32.

The area comprises of the three following sections:

- (i) An area of 776.8 acres, surveyed as parcel PR232 and registered in Register A.36 No.2440.
  - (ii) An area of 17.6 acres surveyed as parcel PR4 and registered in Register A34 No.877. This area is completely surrounded by parcel PR232.
  - (iv) That area of the Praslin Trans-Island road passing through parcel PR232, totalling 5.2 acres and being Domaine Public.
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## Annex 2. Itemised list of equipment and items

INVENTORY OF EQUIPEMENT, TOOLS AND OTHER ITEMS			
CHEMICAL STORE INVENTORY			
Equipment/Item	Amount	Status	Remarks
Protective clothing-Overall (chemical resistance)	4 sets	None	To be purchased
Boots (Chemical)	6 pairs	None	To be purchased
Filter Mask (full face mask)	4	None	To be purchased
Gloves (chemical resistance)	8pairs	None	To be purchased
Takamaka injection			
Pressure cylinder	2	None	To be purchased
Hand drill	1	None	To be purchased
Foot pump (Powerful twin barrel foot pump)	1	None	To be purchased
Overall (chemical resistance)	2 sets	None	To be purchased
Boots	2pairs	None	To be purchased
Gloves (chemical assistance)	2 pairs	None	To be purchased
Face shield Masks (chemical)	2	None	To be purchased
NURSERY INVENTORY Newcome and Fond Boffay			
Hand fork	2	None in reserve	To be purchased
Hand spade	2	None in reserve	To be purchased
Small knife	6	None	To be purchased
Hoe	5	None in reserve	To be purchased
Watering can	2	One damaged	To be purchased
TIMBER			
Calliper (<60 diameter and the other above 60 diameter)	2	Have an existing one that we share with La Digue Unit	To be purchased
OFFICE			
Office furniture			
Office chair	5	One for Newcome and the rest for main Fond Boffay office whereby the existing one is falling apart.	To be purchased
Office desk	5	One for Newcome and the rest for Fond Bffay office whereby the existing one is falling apart	To be purchased
Wooden chair for customers	1	For Newcome	To be purchased
Filling Cabinet	2	Need extra for main office and one for Newcome	To be purchased
Shredder	1	Existing one not working/ write-off	To be purchased
Laminator	1	Existing one not working/ write-off	To be purchased
FIRE STORE INVENTORY			

Equipment/Item	Amount	Status	Remarks
Chainsaw king max 7200	1	Write-off	To be purchased
Chainsaw king max 9200	1	Write-off	To be purchased
Helmet (white)	74	Write-off	To be purchased
Water pump Homelette 208 GPM	1	Write-off	To be purchased
Water pump Hale (like a small boat)	1	Transfer to SFRSA for repair	To be purchased
Water pump	2	Write-off	To be purchased
White water pipe 30cm	25	Eaten by white termite	To be purchased
White water pipe 20cm	7	Eaten by white termite	To be purchased
Plastic water pipe blue	4	Write-off	To be purchased
Nozzle head	5	Write-off (old model)	To be purchased
Black water pipe Ziegler for fire tender	4	Write-off	To be purchased
Water cylinder	4	Write-off (leaking)	To be purchased
Climber	2 pairs	Old	To be purchased
Water filter (big)	2	Write-off	To be purchased
Red water pipe 75FT	4	Can be used	Need maintenance
Axes	3	In use	In use when there a bush fire
Torch	2	In use	To be purchased
Yellow metal rake	30	In use	In use when there a bush fire
Small spade Tombo	6	In use	In use when there a bush fire
Shovel	1	In use	In use when there a bush fire
Spade	3	In use	In use when there a bush fire
Hand saw (yellow)	3	In use	In use when there a bush fire
<b>Fire store - Items needed</b>			
Chainsaw	2	One small/one big	To be purchased
Machetes	20		To be purchased
Firefighter Boots	21 pairs		To be purchased
Wild land fire Gloves	21 pairs		To be purchased
Wild land fire gear (jacket & pants)	21 sets		To be purchased
Water pump	3	One small/one floated and one big	To be purchased
Water cylinder /bag	20		To be purchased
Water pipe 30cm	10		To be purchased
Water pipe 20 cm	10		To be purchased
Fire fighter helmets	21		To be purchased
Fire fighter goggles	21		To be purchased
Respiratory protection	21		To be purchased
Shovel	15		To be purchased
Spade	10		To be purchased
Climber	2 pairs	Size 8 and 11	To be purchased
Nozzle head	4		To be purchased

<b>Fond Boffay Unit</b>			
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<b>List of chainsaw and Brush cutter</b>			
<b>Equipment/Item</b>	<b>Amount</b>	<b>Status</b>	<b>Remarks</b>
Husqvarna 135 Chainsaw	1	In good condition	
Stihl MS 381 Chainsaw	1		Need spares (ekzos)
Stihl MS 170 chainsaw	1	In good condition	
Husqvarna 3120 chainsaw	1	In good condition	
Husqvarna 372 chainsaw	1	In good condition	
Husqvarna 450 chainsaw	1	In good condition (Newcome unit)	
Husqvarna 444 chainsaw	1	In good condition (NP Unit)	
Brush cutter King eagle	1	In good condition	
Husqvarna 372xp Chainsaw	1	In good condition	Transferred to Mahe Forestry
Stihl MS 660 chainsaw	1	In good condition	
Overhead trimmer/line trimmer	1	Sent to Mahe for repair	
Husqvarna 445 Chainsaw	1	Write-off	To be purchased for use during bush fire
King max 9200 chainsaw	1	Write-off	To be purchased for use during bush fire
King max 7200 chainsaw	1	Write-off	To be purchased for use during bush fire
Husqvarna 450 chainsaw	1	Write-off	To be purchased for use during bush fire
Hedge trimmer	2	Write-off	To be purchased for use during bush fire
Brush cutter AL-Ko	1	Write-off	To be purchased for use during bush fire
Blower Stihl	1	Write-off	To be purchased for use during bush fire
<b>Operations Store Inventory</b> / all item was moved to fire store. The operations store was turned into the Coco-de-mer store			
<b>Equipment/Item</b>	<b>Amount</b>	<b>Status</b>	<b>Remarks</b>
Rake	4	New	
Engine Blower	1	In use	
Serial: 160880244			
Panasonic Vacuum cleaner (black & Blue)	1	New	
Serial: 2017-0208-0003			
Air Compressor RYOBI AC-1524	1	New	
Serial: 154800423			
Metal Rake	2	In use	
Machetes	6	In use	Re-stocked
Hand Trimmer	1	Old	To be purchased
Pick-mattock	3	New	
wheelbarrow	1	In use	
Gardening Scissors	2	New	
Feet pump for Takamaka injection	1	In use	
Torch	2	New	
Wheels 165/70N13	2	New	
Wheels 117/116N	2	New	
Sprayer: Farmate	1	New	
Tree felling rope	52 meters	New	

Axe	2	New	
Hand cultivation	1	New	
Weeder	1	New	
Safety belt (tree felling)	3	New	
Climber	1 set	Old	
Black plastics foundation for Nursery	1 roll	New	
water pipe for pump (fire)	3 rolls	New	
<b>NEW COME UNIT STORE INVENTORY</b>			
Chainsaw Husqvarna serial: 9671569-00	1	In use	
Bench grinder serial: 2011113 00 003	1	In use	
Grass Trimmer Husqvarna 236 serial: 201725 11479	1	In use	
Machetes	3	New / In use	
Hoe	6	3 In use	
		3 New / In use	
Spade	1	In use	
Shovel	1	In use	
Hand fork	3	1New	
		2 In use	
Hand spade	1	New / In use	
Rake	4	In use	Needs to re-stocked
Small Axe	2	In use	
Watering can	1	In use	
<b>Cabinet found in office occupied by Ms. Lesperance</b>			
Husqvarna chain 15m	1	New / In use	
Husqvarna chain 18m	1	New / In use	
Husqvarna Spark plug	6	New/ In use	
Chemical respirator mask	1	New	
Dust mask	1 box	In use / out of stock	
Hand fork	2	New	
Hand Spade	2	New / In use	
Cargo Lashing belt	1	New	
Gloves (cloth)	5 pair	New/ out of stock	To be purchased
Gloves (rubber)	1 pair	New/ out of stock	To be purchased
Hammer 4’’	1	New/ In use by National Park Unit	
<b>Maintenance Store</b>			
Wooden scissors	1 set	New	
Ion Jack plane	1	New	
Screw drive	1 set	New	
Claw Hammer	2	In use	
T-square	1	In use	
Handsaw	1	In use	
Hacksaw	1	In use	
Hand drill	1	In use	
Scraper	3	In use	
Electric Belt sender	1	In use	
Makita serial: 9910			
Electric plane	1	In use	
Makita serial: N1923B			
Bricklaying trowel	2	In use	
Circular Saw	1	In use	

Fujita FCS-235BN			
Electric plane	1	Out of order	
Makita serial:1902			
Electric Router	1	In use	
Fujita FR-2100B			
Electric Drill	1	In use	
Makita HP1631			
Spanner socket & wrench	1 set	In use	
Screw driver flat	2	In use	
Electric drill	1	In use on Curieuse Island	
BOSS SURE serial: BSS2-24DSE			
Tree lopper belt	2	1 In use and 1 broken	The one in use is getting worn out. Need to purchase new one
Finishing Sander	1	In use on Curieuse Island	
Makita serial:B03700			
Tool Box	1	In use (empty box)	
Life Jacket	2	In use	
Cable reel Red brooke10m	1	In use	
Spirit level	1	In use	
Players	1	Out of order	
Half round file	1	In use	
Half round bastard cut	1	In use	
Wood preservative	2 tin	In use	
Solignum	1 tin	In use	
Langlow wood preservative	2 tin	In use	
Sickle	1	In use	
Handle hedge bush shears	2	In use	
“Paspertou”	1	In use	
STIHL Ms381	1 Bar and chain		2.6ft
	1 ‘Exzos’		
Nylon	1 roll (share with Newcome unit and Fond Boffay)	out of stock	To be purchased
Chainsaw Husqvarna 445	1 bar and Chain		18” for National Park Unit
<b>Forestry</b>			
Machetes	14		
Heavy duty gloves		Don’t have any	To be purchased (8 pairs)
Rubber gloves		Don’t have any	To be purchased (8 pairs)
Climber	2 pairs		Size 8 and 11
Tree felling rope	50 meters 2”		Must not be slippery

Small rope	50-100 meters		For tree lopper to lift chainsaw while his/her is on the tree
‘Tir for’ + wires	1	The old one is damage	To be purchased
Brush cutter	1	The existing one keep having several issues	To be purchased
Compressor+ nozzle head	1		To be purchased
Edge trimmer	1		To be purchased
Trimmer	1		To be purchased
Primer	5		For chainsaw
Safety belt	1		Safety for tree lopper
Grinder disk	2		Grinder ICD CRAFT 3cm -200
Charger for re-chargeable battery for GPS	1	New	
<b>Transport Bus S31742 &amp; Pick-up S25176</b>			
Break pad	1 set	New	
Break fuel (Dot 3)			
Mat for pick up	1 pair		To be purchased
Mini portable vacuum	1	To purchase	For bus and pickup. To be purchased
Wheel for Bus	4	In stock	<b>195/70R15c</b>
oil filter for bus	1	In stock	For bus to do servicing
fuel filter for bus	1	In stock	
Wiper blade for pickup size 450mm 18"	1 pair	Still waiting to be purchased	To be purchased
Delo gold ultra-Diesel Engine Oil	4 gallons	In stock	2 for bus and 2 for pick up
Sock front and back	2 in each	Still waiting to be purchased	For pickup
Seat cover	1 set	Seat is damaged	To be purchased
<b>National Park Unit</b>			
Rakes	4		To be purchased
Shovel	4		To be purchased
Spade	4		To be purchased
Brush cutter	1		To be purchased
Sharpening stone	2		To be purchased
GPS + chargeable battery + charger for battery	1	Needed for mapping of trails and CCDM data	To be purchased
Machete	6		To be purchased
Harmer (big)	1		(4 pounds) To be purchased