

**GLOBAL ENVIRONMENT FACILITY**  
**ENABLING ACTIVITY PROPOSAL**

**Country:** Republic of the Seychelles

**Project Title:** National Biodiversity Strategy, Action Plan and First National Report to the Convention on Biological Diversity (CBD)

**GEF Focal Area:** Biodiversity

**Country Eligibility:** Ratified the CBD on 22 September 1992

**GEF Financing:** US\$ 186,000

**Government Contribution:** In-kind and Personnel

**Estimated Total Budget:** US\$ 186,000

**GEF Implementing Agency:** UNEP

**National Executing Agency:** Division of Environment, Ministry of Foreign Affairs, Planning & Environment (MFAPE)

**GEF Operational Focal Point:**

**CBD Focal Point:** MFAPE

**Estimated Starting Date:** September 1996

**Project Duration:** 12 months

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**I. Background/Context**

The Republic of the Seychelles is a small island state comprised of 115 granite and coral islands scattered throughout 400,000 km<sup>2</sup> of the Indian Ocean within a zone of economic sovereignty covering 1.3 million km<sup>2</sup>. Ninety per cent of the population (70,000 inhabitants) live on the 220 km<sup>2</sup> that comprise the principal granite islands of Mahe, Praslin and La Digue and three-quarters of the Seychelles' total land area. The 34 innermost granite islands emerged from the sea when Madagascar and the peninsula of India separated some 60 million years ago and are believed to be the remnants of the vast underwater continent of Gondwana that in primeval times connected South America, Africa, India, Australia and Antarctica. Reptile fossils and the continuing existence of species of amphibians such as the cecilis,

sooglosside frog (*Sooglossus seychellensis*) and coco-de-mer tree (*Lodoicea maldivica*) indicate that aboriginal flora and fauna date back to prehistoric times and are descendants of life-forms found elsewhere in Africa (Ethiopia and Madagascar) and South Asia (particularly India). Later, before the sea-level rose, the Seychelles was colonised by flora and fauna from the neighbouring continents of South-east Asia, Australia and East Africa. These "immigrants" gradually adapted to their isolated island environment and, over the course of millions of years, sheltered from predators, cyclones and parasites, evolved into distinct species. This is why today more than half of all species of Seychelles flora and fauna are endemic.

Vegetation on the granite islands varies from remnant patches of indigenous primary wet forest (mainly on inaccessible mountain summits and in small protected areas) to thick, shade forest at low to medium altitudes, to small patches of xerophytic beach and coastal vegetation (among which six species of indigenous palm trees and some of the last known specimens of *Medusagyne oppositifolia*) in areas that have not been cultivated with coconut and filao palms. There are also limited areas of mangroves, freshwater marsh land and savannah. These natural vegetation types are interspersed with plantation crops, some of which now grow wild. In all, the granite islands host 850 species of flowering plants and ferns (69 endemic and 150 indigenous), including numerous orchids and epiphytes. Endemic species are more abundant on the larger islands and are characterized by their longevity and the gigantic proportions of some taxa.

The vegetation of the coral islands, which juts out 2-8 metres above sea level, is less dense but includes nevertheless some 400 species of angiosperms, one third of which (24 percent endemic and 58 percent indigenous) are exclusive to the higher islands, one third (one species endemic and nearly 10 percent indigenous) to the lower islands and one third (1 endemic species, 37 percent indigenous) common to both. Vegetation is predominantly coconut palms interspersed with stands of casuarina, latifolia, mangroves, small shrub and scrub, savannah and grasslands, together with some food crops around the human settlements. Some 260 flowering plants have been identified of which 30 species are endemic. Although largely uninhabited, the coral islands have nevertheless been subject to environmental degradation both as a result of phosphate mining and natural erosion induced by the abundant guano, as well as the construction of runways since 1970, which occupy a significant area of the limited available vegetated land (e.g. 20 percent of Bird Island).

Historically the Seychelles was renowned for its endemic species of land tortoise which were exploited to the point of extinction during the 16th-19th centuries, though one giant species (*Geochelone gigantea*) still survives on the coral atoll of Aldabra in a population numbering some 150,000 individuals, due to government efforts to protect it. Fresh water turtles are more abundant although now confined to the granite islands. One species - *Pelusios seychellensis* - is very rare and is now limited to a few swamplands in the higher parts of Mahe. The Seychelles is also home to many species of lizards, snakes and just one family of indigenous mammal - the bat. In all, around 40 bird species have been identified. Nearly 2,500 insects have been identified (mostly related to Asian species), 2000 of which are thought to be limited to the granite islands and around 300 to the coral islands. It is very difficult to estimate the number of endemic species though some sources estimate it could be as high as 50 per cent, particularly in the patches of remnant primary forest.

The Seychelles coastal zone extends for some 600 km<sup>2</sup> with a surface area of ocean estimated at 48,000 km<sup>2</sup>, varying in depth from 0-200 metres. These waters harbour some of the most beautiful, diverse and unexplored coral reefs in the Indian Ocean. Forty-five species of corals have been recognised around the shallow waters surrounding the granite islands, 44 off the Aldabra atoll and over 900 species of fish have been identified in the same areas. Many more species have yet to be identified, particularly in less explored and deeper waters. Important marine species include sea turtles, most notably the green turtle (*Chelonia mydas*) and the hawksbill turtle (*Eretmochelys imbricata*) - one of the most prehistoric of all species whose population has greatly declined in recent years due both to over-exploitation and the destruction of their habitat from pollution and development of the coastal regions. Both species are now protected by law from hunting, fishing and commercial activities. There are also significant communities of sea urchins, sea cucumbers, 32 species of echinoderms, crabs, shell fish and molluscs.

In Seychelles in the past, over-development and over exploitation as a result of rapid economic and demographic growth have had a detrimental effect on natural resources and resulted in the extinction of many species. Many others are now endangered and, given the gaps in knowledge particularly regarding marine biodiversity, it is difficult to gauge the true impact of environmental degradation to date. On the three main islands a recently completed land-use plan, a project for integrated management of the coastal zone and a law calling for environmental impact assessments before development of particularly fragile areas has alleviated to some extent the pressures on the cordon littoral. However, other constraints to conservation initiatives remain the rocky landscape and shallow, fragile soils (for the most part containing less than 1 per cent organic matter) that are highly susceptible to erosion, fresh water run off, gullyng and landslides, particularly in the dry seasons and during torrential rains.

In the last few years, the government of the Seychelles has recognised that the protection of both marine and terrestrial biodiversity is essential for the maintenance of a healthy economy since it is the sole resource that provides the Seychellois with the means of subsistence (fish) and economic development (tuna/sport fishing and tourism). Forty three per cent of the Seychelles land area is now protected as national parks or reserves, including 18 entire islands (nine bird sanctuaries, four marine parks) and two world heritage sites (the Aldabra atoll and the Vallée de Mai on Praslin). The Seychelles is one of the few countries of the world that has effectively integrated environmental management issues into its National Development Plan. Environment and Economic Planning are parts of one Ministry (Ministry of Environment, Economic Planning and External Relations). However, with a population of less than 78,000 inhabitants, the Seychelles does not have the specialist skills required to assess, analyse, and propose a detailed programme of the actions required to carry out a comprehensive plan for biodiversity protection and sustainable use such as that demanded by the CBD to which the Seychelles was the first Party.

## II Project Objectives and Short Description:

The principal objective of the project is to assist the Government of Seychelles (GoS) to formulate a national biodiversity strategy and define priority actions to conserve and sustainably use its biodiversity within the context of socio-economic development. The

preparation of the first national report to the CBD will enable Seychelles to meet the obligations under Article 26 of the Convention as stipulated in Decision II/17 adopted by the second meeting of the Conference of the Parties to the CBD (COP 2). It will be prepared in the time frame set out in Decision II/17.

The process will be as participatory as possible. A multi-disciplinary and multi-sectoral Task Force will be formed to co-ordinate the implementation of this project ensuring that public outreach is integrated in the process. It will designate a core team (Planning Team) to lead the execution of the project. It will also organise seminars in the three most inhabited islands of Mahe, Praslin and La Digue and one national workshop to ensure as much involvement as possible from all stakeholders including the rural people.

Because of the scarcity of the broad spectrum of specialist skills required in this project, international consultants, preferably from the region, will be needed to assist the national project team in conducting a detail analysis of the issues and options identified and in ensuring the technical quality of the strategy and action plan. This international expertise will also be used to conduct a training session for the project Planning Team and national consultants in biodiversity analysis and planning as well as in the use of the WRI/UNEP/IUCN Guidelines at the onset of the project.

### III Operational Criteria:

#### i) Coverage without duplication:

The NBSAP will make use of existing capacity and information. The outputs, information and capacity generated by the following major initiatives will be utilized: 1) the World Bank/GEF Biodiversity Conservation & Marine Pollution Abatement project; 2) the First Report on the State of the Environment (French Consultant - BRECHE); 3) Inventory, Demarcation & Digitization of Fragile Zones project (France, Sweden & Canada); 4) the Master Plan for the Protection of the Biodiversity of Marine Parks (IUCN); 5) the Master Plan for the Forest Sector (Finland); and 6) the Reafforestation programme for Curieuse (Holland) and (7) the programme for the protection of the "La Veuve" reserve, La Digue (France, Guinness Breweries).

ii) Appropriate overall sequencing of activities:

The project will be conducted over a period of 12 months as reflected in the schedule shown in the following table.

	Activity/Month	1	2	3	4	5	6	7	8	9	10	11	12
1	Formation of Inter-agency Task Force & Planning Team	x	x										
2	Training of Planning Team & Orientation of Consultants in BD Analysis & Planning		x										
3	Survey of Existing Information		x	x									
4	Seminars in the 3 most inhabited islands		x	x	x	x	x						
5	Drafting of NBSAP							x	x	x			
6	National Workshop on the Draft NBSAP										x		
7	Finalization of NBSAP											x	
8	Printing & Publication of NBSAP												x
9	Preparation and Submission of First National Report to COP *								x	x			

\* Because of the deadline of 30th June 1997 for submitting the first national report to the secretariat of the CBD, the Seychelles report will be based on existing information and the progress achieved by then in preparing the NBSAP.

iii) Best practice:

The methodology for the implementation of this project will be based on "Guidelines for Biodiversity Planning" (WRI/UNEP/IUCN 1995). The lessons learned from other relevant projects in Seychelles will be fully utilized. The First National Report to the CBD will be based on the information contained in the country study and the progress achieved in preparing the NBSAP. This report will be done in the time frame stipulated in Decision II/17 of COP 2.

iv) Cost effectiveness and consistency of approach and procedures:

The cost effectiveness of this proposal is based on maximum reliance on existing information and capacity developed in the course of several ongoing and completed biodiversity projects mentioned above.

**IV Institutional Framework:**

The Division of Environment, Ministry of Foreign Affairs, Planning & Environment (MFAPE) will coordinate the execution of this project. It is responsible for setting national environmental policies and their implementation. An inter-agency Task Force for this project will be established and shall comprise of representatives from relevant Government Ministries, Research and other institutions, Local Communities, NGOs and the Private sector.

**V Project Financing****Project Budget (US\$) Seychelles NBSAP**

Activity	Product	Process	Total
<b>1. Assessment of Existing Information *</b>	<b>5,000</b>	<b>0</b>	<b>5,000</b>
<b>2. Identification and analysis of options</b>	<b>26,000</b>	<b>69,000</b>	<b>95,000</b>
- Training for Planning Team		12,000	
- 3 Seminars in Mahe, Praslin, La Digue (travel, per diem, facilities)		10,000	
- National workshop (travel, per diem, facilities)		15,000	
- International Consultants	12,000	24,000	
- National Consultants	8,000	8,000	
- Reports	4,000		
- Miscellaneous	2,000		
<b>3. Preparation of NBSAP</b>	<b>37,000</b>	<b>27,000</b>	<b>64,000</b>
- National Consultants	12,000	4,000	
- International Consultants	12,000	12,000	
- 2 Task Force Consultations (travel, per diem, facilities)		6,000	
- Dissemination, Public awareness		5,000	
- Printing & Publication - of the NBSAP report	11,000		
- Miscellaneous	2,000		
<b>4. Preparation of First National Report</b>	<b>7,000</b>	<b>0</b>	<b>7,000</b>
- National Consultant	2,000		
- Printing & Publication	4,000		
- Miscellaneous	1,000		
<b>5. Co-ordination &amp; Management Costs</b>	<b>15,000</b>	<b>0</b>	<b>15,000</b>
<b>Total</b>	<b>90,000</b>	<b>96,000</b>	<b>186,000</b>

\* Several past & on-going projects (see footnotes 1-6 on page 8) have generated a lot of data on the biodiversity of the Seychelles. All existing data will be compiled into a formal monograph.

**VI Deviations from norms and criteria:**

Although there are no deviations from cost norms as stipulated in the operational criteria, the cost of this project would normally have been expected to be considerably lower than it is, given the demographic size of the Seychelles. However the need expressed by the GoS to draw on international expertise due to lack of sufficient specialist skills locally, combined with the need to publish the reports in both English and French, have increased the cost of the project.

**TABLE A: Dimensions of Enabling Activities (Standard Activity Matrix), Seychelles**

Enabling Activity	Out-put	Capacity Building		Public Participation	Comments (To see footnotes)
		Institutional Strengthening	Training		
<b>Stocktaking of existing information</b> - biodiversity & biological resources  - cross-sectoral issues - policy & regulatory framework - institutional & human capacity - analysis of root causes of BD loss - technologies for conservation & sustainable use - activities with adverse impact - existing measures & programmes  - preliminary statement of objectives - identification of gaps - assessment of existing needs	SOE* <sub>3</sub> , NGO <sub>6</sub> ,x x x x x x WB <sub>1</sub> , x IUCN <sub>2</sub> , Finland <sub>4</sub> , Holland <sub>5</sub> WB, NGOs, Guinness x SOE,x SOE,x x				1-6
<b>Identification and Analysis of Options to meet the objectives of the CBD</b> - strategies for conservation - strategies for sustainable use - strategies for benefit sharing	x x x		x x x	x x x	
<b>Planning and Preparation of NBSAP</b> - national strategy - national action plan	x x	x x	x x	x x	7,8
<b>Preparation of the First National Report</b> - First National Report	x		x	x	7,8

x Activity to be accomplished under this project.

\* State of the Environment



- 1 Data gathered and experience gained during the execution of the World Bank/GEF Biodiversity Conservation and Marine Pollution Abatement project will also contribute immensely to the preparation of the NBSAP. The project comprises of a biodiversity conservation component: (a) the restoration and preservation of the ecosystem of Aldabra Atoll by strengthening conservation management and scientific research, and the control of feral goats, and (b) a protection program for the Green and Hawksbill Turtles. Marine pollution component covers the analysis of the steps to comply with MARPOL standards for ship waste treatment and actions required to control pollution from commercial shipping, fishing and leisure craft.
- 2 The Master Plan for the Protection of the Biodiversity of the Marine Parks was initiated in 1995 with the assistance of IUCN, as were individual management plans for each marine park. In 1996 the application of these plans will become the responsibility of the proposed Biodiversity Agency. (Since the Biodiversity Agency is not yet in existence, the Marine Parks Authority is acting as a precursor to the Biodiversity Authority. Responsibilities of the Biodiversity Authority are at present being conducted by the Conservation & National Parks section).
- 3 The first report on the State of the Environment of the Seychelles was carried out in 1993/94 with assistance from Fonds d' Aide et de Cooperation (FAC) France, and was not published. The sensitive areas were mapped with the assistance from of the French Co-operation, the Swedish Volunteer Service and Canada.
- 4 The Master Plan for the Forest Sector has been in effect since 1993 and was strengthened in 1994-5 with the assistance of experts from Finland. The management of the national park of the Morne Seychellois has been underway since 1995 and has concentrated on rehabilitation activities and the eradication of exotic species.
- 5 A reforestation programme on Curieuse Island was undertaken in 1994 with the support of the Government of Holland and resulted in the planting of 10,000 Casuarina trees. This programme will be continued in 1996. A land acquisition programme in order to protect the reserve known as "La Veuve" on La Digue Island was drawn up in 1995 with the support of the French Co-operation and Guinness sponsorship.
- 6 The Musee Royal de l'Afrique Central, the British Museum, the Laboratoire de Genetique Evolutive et de Biometrie de Gif-sur Yvette (France) are the acknowledged experts on the insect life of the Seychelles and will be consulted in this regard during the compilation of the biodiversity inventory.
- 7 Seminars will be held in the three most inhabited islands of Mahe, Praslin and La Digue to initiate public participation on biodiversity issues and enhance national authorship of the NBSAP.
- 8 A training session for the Project Planning Team in biodiversity analysis and planning as well as in the use of the WRI/UNEP/IUCN Guidelines and in the preparation of the first national report will be conducted at the onset of the project.

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MINISTRY OF FOREIGN AFFAIRS, PLANNING AND ENVIRONMENT  
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Victoria, le 15 mars 1996

**ATT'N: MONSIEUR AHMED DJOGLAF**

**Objet: votre courrier GEF/jw du 23 février 1996**

Madame, Monsieur,

Le capital économique des Seychelles réside aujourd'hui dans la biodiversité de ses écosystèmes. L'environnement des Seychelles est sa biodiversité et la protection de celle-ci passe par une approche globale de gestion durable de l'environnement. Il manque encore aux décideurs nationaux l'outil 'indicateur' basé sur les valeurs de critères et les bilans d'actions, fiables. Nous nous proposons d'élaborer cet outil avec l'aide des fonds 'G.E.F' que vous mettez à notre disposition.

Nous vous présentons donc un projet de document à élaborer. Ce document sera l'outil de suivi et programmation de la protection de l'environnement - et donc de la biodiversité - des Seychelles pour les années à venir.

Veillez croire, Madame, Monsieur, à mes hommages et ma  
) considération distinguée.



G. Troina INIT.  
DIRECTOR GENERAL

cc: Dir. Multilateral Affairs  
CNP  
EA & PC  
Foret  
CN/COI

GT/FDB/bp