



United Nations Development Programme

GLOBAL ENVIRONMENT FACILITY (GEF)

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3 July, 1996

Mohamed
Dear Mr. El-Ashry,

Enabling: Activities: Seychelles

I am pleased to enclose a copy of the Enabling Activity entitled "Enabling Seychelles to Prepare its First National Communication in Response to its Commitments to the UNFCCC".

As you will recall, this project brief was approved by the GEFOP at its June 6 meeting. Subsequently, this brief was revised to take into consideration comments made at the meeting.

Thank you in advance for expediting the review and approval of this project brief.

Yours sincerely,

Rafael Aserjo
Rafael Aserjo
Executive Coordinator

Mr. Mohamed El-Ashry
Chief Executive Officer
Global Environment Facility
Room G6005
1776 G Street
Washington, D.C. 20433

c.c. Mr. Ian Johnson

PROPOSAL FOR REVIEW

Country: SEYCHELLES

Project Title: **Enabling *Seychelles* to Prepare its first National Communication in Response to its Commitments to the UNFCCC**

GEF Focal Area: Climate Change

Country Eligibility: Convention Ratified August 22, 1992

Total Project Costs: US \$ 250.290

GEF Financing: US \$ 250.290

Country Contribution: US \$ 25,000 (in kind)

Cofinancing/Parallel Financing: US \$ 0

Associated Project: Environmental Management Plan of Seychelles 1990-2000

GEF Implementing Agency: UNDP

Executing Agency: Seychelles National Climate Change Committee (NCCC)

Local Counterpart Agencies: Ministry of Foreign Affairs, Planning and Environment; Ministry of Tourism and Transport.

Estimated Approval Date: June 1996

Project Duration: 2 years

GEF Preparation Costs: NA

BACKGROUND AND PROJECT CONTEXT

Country Profile

1. Seychelles is a small country of small islands consisting of approximately 115 granitic and Coralline islands. These islands are scattered over an area of an Exclusive Economic Maritime Zone (EEMZ) and covering an area of 1.37 million square kilometers with rich bio-diversity of flora and fauna. The total land area of these islands is about 445 square kilometers while the population is estimated at 73,000 inhabitants with most of the people and economic activities being concentrated over the Coastal Plains - areas which in many areas lie below the mean sea level. For example, Mahe, the main island, has approximately 88% of its total population living on the coast since most of its area are central highlands and inaccessible to development and human settlement. Therefore, the only way further expansion and urbanization can take place is by reclamation from the sea.
2. Alphonse, Farquahar, Amirantes, and Aldabra are the coral islands of economic importance. Contrasting these islands with the granitic islands, they are rather flat and hardly one meter above the mean sea level. Although human settlement is insignificant in most of these islands, certain economic activities such as agriculture, tourism, fisheries and biodiversity conservation dominate.
3. Sea level changes, storm surges, and soil erosion cause major threats to the islands' coastal zones, the reclaimed land areas, and the low lying coral islands. Observations indicate the existence of advanced coastal erosion along several beaches especially in areas with extensive human activity. Flash floods are a common phenomenon in low lying areas which generally receive higher rainfall which sometimes could range from 250mm to 300mm within six hours.
4. Economically, the country relies mainly on tourism and other tourist related industry, the fishery industry, the forestry industry, vegetable farming and other small scale farming activities. The marine ecosystem and the low lying coastal belt are the back-bone of the islands socio-economic development. As a result, the country's environmental policies ensure that proper coastal zone management plans and regulations are observed and enforced.
5. Seychelles is fairly dependent on fossil fuels, which are imported, as its source of energy. Over a half of this imported oil is used to generate electric power and a substantial amount of oil products are re-exported. Land transport is another important sector which consumes much of the imported fossil fuel energy.

Statutory Background

6. In Seychelles, the right to the environment for all citizens is articulated in Article 38 of the National Constitution. The Article requires the state to take measures to promote the protection, preservation, and improvement of the environment; to ensure a sustainable socio-economic development of the country by a judicious use of its resources; and to promote public awareness of the need to protect, preserve and improve the environment. In order to fulfill this constitutional obligation the country has been preparing short and long term comprehensive

environmental management plans extending up to the year 2000.

Environmental Policy

7. The potential impacts of climate change such as: sea level rise; changes in local climate conditions, including temperature and precipitation patterns; could have important negative impacts on different aspects of the socio-economic development of many countries, especially small island developing countries. As a small island developing country, Seychelles recognized the importance of the United Nations Framework Convention on Climate Change (“The Convention”). Thus, Seychelles ratified the Convention on August 22, 1992 soon after the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992.

8. Seychelles has prepared an Environmental Management Plan of the Seychelles (EMPS) for the period 1990 - 2000. This is basically a management plan for the environment containing more details on actions to be implemented to protect the environment. This plan set priorities on environmental issues which the country needs to implement through certain management programs and projects. The objectives of the plan are in line with the general principles of protecting the environment as given in the Climate Convention.

THE NATIONAL CLIMATE CHANGE COMMITTEE

9. The National Climate Change Committee (NCCC) was established in August 1992 by the approval of the President of Seychelles. The Committee consists of representatives from various relevant minorities, parastatal institutions and Non-Governmental Organisations (NGO) with the representatives from the Meteorological Services and the Environment Division as co-chairmen. The main functions of the National Climate Change Committee are:

- to provide an overall co-ordination of the development and implementation of the National Climate Programme and Climate Change research;
- to develop a plan of action that identifies high priority multi-disciplinary tasks to be promoted within the National Climate programme;
- to act as the interface between the National Climate Programme and the government; and
- to maintain national and relevant international climate change information (inventory) at the National Climate Change Information Centre located at the Meteorological Services.

10. The National Climate Change Committee is an Inter-Institutional body comprising representatives from institutions which have relevance to climate change issues. The representatives include the following institutions:

Environment Division (Co-chairman)	Ministry of Foreign Affairs, Planning and Environment
Meteorological Services (MS) (Co-chairman)	Ministry of Tourism and Transport
Foreign Affairs (Collins)	Ministry of Foreign Affairs, Planning and Environment
Crop Development and Promotion Division	Ministry of Agriculture and Marine Resources
ORSTOM	Seychelles Fishing Authority
Seychelles Bureau of Standards (SBS)	Parastatal Institution
Land Transport Division (LTD)	Ministry of Tourism and Transport
Water and Sewerage Division	Public Utility Company
Environment Health	Ministry of Health
(Esparon)	Ministry of Communication Development
Seychelles Fishing Authority (SFA)	Seychelles Fishing Authority
Environment Resources Oceans	Private Institution
Institut Seychellois pour la Démocratie	Institut Seychellois pour la Démocratie
National Disaster Committee	National Disaster Committee
Curriculum Development	Ministry of Education and Culture
Seychelles Broadcasting Co-operation	Parastatal Institution

Past and On-Going Activities

11. In line with the objectives of the Environmental Management Plan, there have been various studies and activities related to the impacts of climate change on the Coastal Zone. Through the sponsorship of IOC, some work has been done on coastal erosion, and sea level changes and its impact. Also a survey of the Coastal Zone of Seychelles has been made through the funding provided by the Swedish Agency for Research and Cooperation (SAREC). A program to monitor sea level changes through an automatic tide gauge transmitting real time data to Hawaii has been installed in Seychelles. There is also ORSTOM, a French research and development agency, responsible for a data base on oceanographic data from the Indian Ocean. These data include vertical profiles and sea surface conditions which could be useful in

monitoring environmental shoreline changes and fish behavior in the islands. A study on the different energy demands and the different alternative options have been studied recently under a project supported by Stockholm Environmental Institute (SEI). The Government of Seychelles is formulating comprehensive programs to improve efficiency and conservation of fuels used in the land transport sector. These measures also contribute to reduction in emitted greenhouse gases.

Project Objectives

12. The overall goal of the project is to prepare and consolidate a Climate Change Strategic Plan for the Seychelles, which will help the country develop actions on climate change impacts within the UNFCCC framework. Considering that the Seychelles is a low lying island nation which could be greatly affected by climate change, primary importance will be given to a vulnerability assessment. The main objectives of the project are:

- To establish a framework and mechanism for the implementation of the objectives and commitments of the UNFCCC.
- To establish a system for preparing inventories of greenhouse gas sources and sinks.
- Identify and assemble available information of past and on-going national and regional activities.
- Determine through consultative meetings and seminars, public and sectoral concerns on issues and possible projects for climate change response.
- Establish a national network of climate change experts connected by electronic communication.
- Set a mechanism to assess the impacts of future climate changes in relation to the use and management of resources.
- Help define the needs for a better understanding of the causes of climate change.
- Establish a vulnerability assessment program to identify the areas where climate change poses the greatest environmental and socio-economic threats.
- Prepare a national plan for the implementation of the UNFCCC (National Implementation Strategy).
- Prepare the first national communication to the Conference of the Parties (COP).

Project Description

13. The project will be based on a number of elements. First, there is a preparatory and assessment element. Second, there is a consultative element involving the public (major

stakeholders) and various regulatory agencies. Finally, there is a strategic element which will take the form of a national plan. Activities are to be carried out in sequence and the following are descriptions of the projected outputs from the project:

Objective 1 (Establish a Project Management Team).

Output 1:

- Identify the human and technical requirement for the Government of Seychelles to fulfill FCCC commitments.
- Constitute the Project Management Team drawing appropriate expertise from relevant ministries and government agencies.
- Enhance the capacity of the Project Management Team through appropriate training On inventory preparation, vulnerability assessment, analysis of mitigation and adaption options.

Objective 2 (Inventories):

To enable the Government of the Seychelles to fulfill its reporting obligations with regard to the development of inventories of greenhouse gas (GHG) sources and sinks.

Output 2: Establish a system for preparing inventories.

- Identify the data requirements and assess at availability of the data for preparing inventories based on the *IPCC Guidelines for National Greenhouse Gas Inventories*.
- Organize a workshop to develop a plan to fill the data gaps and to prepare inventories of greenhouse gas sources and sinks.
- With the local data, develop baseline GHG inventories. Undertake literature review and/or survey, as appropriate, to reduce data gaps. Coordinate with relevant regional efforts. In the process, establish data collection and management system to acquire data to prepare inventories.
- Finalize, and publish the GHG inventories.

Objective 3 (Mitigation):

To enable the Government of Seychelles to fulfill its reporting obligations with regard to the identification of options for mitigating climate change thereby enhancing national capacity to identify, analyze, and formulate viable GHG mitigation measures.

Output 3: Development of:
(1) a list of promising GHG abatement measures in the context of the national GHG inventory, and national objectives and priorities;
(2) methodology for assessment of GHG abatement measures.

- Based on the inventory, identify the major GHG emission sectors and develop an initial list of potential measures as well as methodology for assessment of GHG abatement measures.
- Examine the GHG abatement measures by sources and sectors of emissions in order to prepare promising measures in the local context.
- Analyze the estimates of national sinks of CO₂ in the forestry sector and examine the possibility of further enhancing sinks of CO₂.
- Prepare the first national greenhouse gas mitigation strategy for the National Communication.

Objective 4: (Vulnerability): To enable the Seychelles to fulfill its reporting obligations with respect to its vulnerability to future climate change.

Output 4.A: Procedures for assessing vulnerability to future climate change.

- Adapt *IPCC Technical Guidelines* for procedures appropriate for assessing vulnerability.
- Conduct training of national staff and technical experts.

Output 4.B: Comprehensive set of baseline data required as reference points for assessing vulnerability and adaptation options.

- Define the information requirements.
- Use previous studies to complement present activities.
- Collect, evaluate and compile existing regional and national data.
- Identify data shortcomings.

Output 4.C: Comprehensive assessment of Seychelles' vulnerability to climate change.

- Conduct national vulnerability assessments.

Objective 5 (Adaptation):

To enable the Seychelles to fulfill its reporting obligations with respect to options for adapting to climate change.

Output 5.A: Procedures for identifying and evaluating adaptation options.

- Adapt IPCC Technical Guidelines for procedures appropriate for identifying and evaluating adaptation options.
- Identify data needs of adapted procedures and refine procedure if necessary based on data needs and availability.
- Conduct workshop to receive feedback on developed procedures.

Output 5. B: National adaptation options to climate change.

- Define range of options applicable to Seychelles.
- Evaluate and identify least cost national adaptation options.

Objective 6 (National Implementation Plan):

To enable the Seychelles to prepare national plans for mitigation and adaptation for fulfilling its reporting requirements to the FCCC Secretariat.

Output 6: National plan for mitigation and adaptation.

- Based on analysis of mitigation options and strategies, prepare national plan for mitigation.
- Develop the national plan for adaptation based on the vulnerability assessment and adaptation options.

Objective 7 (National Communication Plan):

To enable the Seychelles to fulfill its reporting obligation with respect to communicating information under Article 12 of the FCC.

Output 7: First National Communication to the FCCC.

- Put together the final form of the national inventory, vulnerability assessment, mitigation strategy and adaptation options in the form of the National Communication to the FCCC Secretariat.

RATIONALE FOR GEF SUPPORT

14. **Seychelles has to meet the commitments of the UNFCCC.** In view of the foregoing it is clear that Seychelles as an active member of the Conference of the Parties of the UNFCCC has the obligation to prepare its national inventory of greenhouse gases emissions by sources and

removals by sinks for the main gases, especially carbon dioxide and methane. It also needs to prepare its first national communication to the Conference of the Parties. The national greenhouse gases inventory developed will help assess the greenhouse mitigation options on technology and policy. Due to the high priority given to issues concerning greenhouse gas inventories and mitigation analyses, vulnerability assessments and adaptation measures, and capacity building it is important to appreciate that a national strategy is required to ensure that such projects can be implemented effectively, and coordinated from a national perspective.

15. **The predicted impacts of climate change would probably affect biodiversity, the coastal zone as well as the fishery sector in the Seychelles.** It is also clear that the islands of the country are very vulnerable to impacts of climate change. A one meter rise in the mean sea level can result in submergence of parts of the coastal zone of the granitic islands and possibly the complete submergence of some of the coral islands. The worst scenario would be sea level rise accompanied by high tides or storm surges. Such an incident would be catastrophic. Changes in climatic conditions can also bring about a shift in rainfall patterns causing tourist occupancy levels to fall. Due to changes in climatic conditions governing the seas, the fishery sector may be affected, especially the artisanal fisheries.

16. **Small islands have very fragile development cycles and require cooperation between countries of the North and South.** Small islands generally do not produce enormous quantities of gases which cause climate change. Therefore, strategies targeting low greenhouse gas producing island countries are important, in addition to assistance for the conservation of their unique biodiversity.

17. **The benefits of a National Climate Change Response Strategy can be realistically estimated by calculating how much the strategy affects the sustainable development of the Seychelles.** Although the country is very vulnerable to the impacts of climate change, it lacks the ability to carry out these studies due to limited financial and human resources. Calculating the benefits or losses of a climate change policy is expensive and difficult. A National Climate Change Response Strategy will give the Seychelles the ability to capture its environmental benefits and losses in its GDP figures.

SUSTAINABILITY AND PARTICIPATION

18. The Government of Seychelles is fully committed to the goals and objectives of this project. In view of the expected impacts of climate change, the government is willing to establish a framework and mechanism to facilitate the implementation of the UNFCCC in the Seychelles. In view of past experience, the success of such projects can only be achieved if a "sense of direction" is adopted at the start of the projects. Thus, a national strategy and a public and intersectoral participatory framework will be set up so that interested party views can be obtained and incorporated. The proposal includes these aspects and it will be through one of these tenets that sustainability and participation by all interested and affected parties will be secured. The National Climate Change Committee will provide the coordinative and facilitatory dimension to the project.

BUDGET AND INCREMENTAL COSTS

See Annexes (attached).

ISSUES, ACTIONS AND RISKS

Issues

- The National Climate Change Committee must work closely with government, the private sector, NGO's, and other agencies to ensure a comprehensive implementation of the project.
- The Government should initiate a set of policies and procedures for the implementation of the UNFCCC in the Seychelles.
- Public awareness of the impacts of climate change should be strengthened through an information dissemination network.

Risks

19. The following are the risks which may impair the project's objectives and goals. When these problems arise the NCCC in collaboration with the Government will take steps to remedy the situation in order to eliminate or diminish the related risk.

- Lack of suitable and appropriate information to allow appropriate strategic alternatives to be analyzed. This could be circumvented by policy option analysis in the light of current information and projects defined to bridge any gaps.
- The issue of climate change covers almost the whole spectrum of sectors in Seychelles. This will require adequate coverage. Improper coverage and consultation can be minimized through the use of local expertise.
- Involvement of policy makers in the final strategy formulation stage. A firm commitment for participation will be secured from each participating sector.

INSTITUTIONAL FRAMEWORK AND PROJECT IMPLEMENTATION

20. The lead Implementing Agency (LIA) has been established to be the National Climate Change Committee, under the auspices of the Ministry of Foreign Affairs, Planning and Environment, and the Ministry of Tourism and Transport. The management (coordination) of the project would require persons with expertise in the domain based at the office of the implementing agency. The LIA would be responsible for all tendering services, as well as organizing the relevant consultative meetings during the interactive phases.

21. The implementation of project activities could be envisaged through well selected consultants, working individually or as a team, including Seychellois counterparts. The consultant should be well established and well informed in the field, and local as well as regional experience would be preferred and recommended.

22. In Seychelles, Climate Change issues are coordinated by the Environment Division which is under the Ministry of Foreign Affairs, Planning and Environment. The Meteorological services represent the country in the climate change discussions both at the UNFCCC and IPCC meetings. Therefore the Environment Division in collaboration with the meteorological services will act as the responsible authority and technical coordinator, respectively. Various government and non-governmental institutions/organisations will be involved at different stages of the study as required. These institutions will include among others, ORSTROM, Seychelles Bureau of Standards, Seychelles Fishing Authority, Environment Resources Ocean, National Disaster Committee etc... (A complete list of institutions is provided in paragraph 10).

MONITORING AND EVALUATION

23. The LIA will set up an internal steering committee to be responsible for monitoring the implementation of the project. The appropriate reports would be expected from the project and they would be reviewed for thoroughness, quality and standard, and conformity to the proposed terms of reference.

UNDP will form an integral part in the monitoring process, and provide guidelines and critical assessments on the work done.

Annex 1
Budget

	<u>Planning</u>	<u>Execution</u>	<u>Institutional</u> <u>Strengthening</u>	<u>Training</u>	<u>Technical Support</u>	<u>TOTAL</u>
<u>Inventories/Stocktaking</u>						
GHG Inventory	5,000	8,000	3,000	3,000	5,000	24,000
Vulnerability Assessment	5,000	40,000	10,000	7,000	8,000	70,000
<u>Identification of Options</u>						
Mitigation	5,000	10,000	3,000	3,000	4,000	25,000
Adaptation	3,000	10,000	5,000	3,000	4,000	25,000
<u>Preparation of Plan</u>						
	5,000	5,000	3,000	3,000	2,000	18,000
<u>Preparation of National Communication</u>						
	5,000	7,000	5,000	4,000	3,000	24,000
<u>Fixed Project Cost</u>						
Project Management	7,000	15,000	7,000	8,000	10,000	47,000
Monitoring & Evaluation					10,000	10,000
<u>Subtotal</u>	35,000	95,000	36,000	31,000	46,000	243,000
Percentage of total costs	14	39	15	13	19	100
Support Costs (3%)						7290
GRAND TOTAL						250,290

ANNEX 2

ACTIVITY MATRIX FOR CLIMATE CHANGE ENABLING ACTIVITIES IN SEYCHELLES

Enabling Activity Commitment.	Output- Planning, Execution and Research.	Capacity Building- Instit. Strengthening.	Capacity Building- Training.
<u>Inventory and Stocktaking</u> Emission inventory -CO2 from energy sources -Co2 from land use change -Ch4 from energy sources -CH4 from other sources -N2O -other sources and gases Vulnerability assessment -agriculture -forestry -coastal zone -water resources -health impacts -natural ecosystems -other impacts	x x x x x x x x x (SAREC) x x x x	x x x x x x x x x x x x	x x x x x x x x x x x x
<u>Identification of Options to Meet the Objectives of the Convention</u> Mitigation options -energy related -industry -transport -energy supply -residential -non-energy sources -agriculture -forestry -waste management -other -sink enhancement Adaption options (stage 1)	x (SEI) x (SEI) x (SEI) x (SEI) x x x x x x	x x x x x x x x x	x x x x x x x x x

<u>Preparation of a Plan to Fulfill Commitments</u>			
-national plan for mitigation	X	X	X
-national plan for adaption	X	X	X
-public awareness building	X	X	X
<u>Preparation of a National Communication</u>			
-inventory	X	X	X
-mitigation options	X	X	X
-vulnerability and adaptation	X	X	X
-other relevant information	X	X	X

<p>X = Areas to be covered by the proposed project.</p> <p>'SSS' = Areas already covered by other projects or programs: CCT = CC:TRAIN GEF = Other Regional or Country GEF "Enabling" Project GTZ = German Agency for Technical Cooperation SAREC= Swedish Agency for Research and Cooperation SEI = Stockholm Environmental Institute UNE = UNEP-GEF Country Case Studies UNR = UNEP-RISO Greenhouse Gas Abatement Cost Studies US = U.S. Country Studies Program</p> <p>'X(SSS)'=Some preliminary activities have already been undertaken, but completing activities presented in the proposed project are needed to finalize the task.</p> <p>0 =Remaining ability gaps for which additional funding from GEF or other sources might still be requested.</p> <p>'0(SSS)'=Some preliminary activities have already been but completing activities not undertaken by the proposed project might be needed to finalize the task.</p> <p>NA = Non-applicable.</p>			
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ANNEX 3

GOVERNMENT SUPPORT LETTER

Ministry of Foreign Affairs, Planning and Environment
P.O. Box 656, Victoria, Mahé, Seychelles
Tel. : (248) 224688 - Fax : (248) 224845



Please address all correspondence to the Principal Secretary

Our Ref : FAIC/355/8/57

Date : 16th November 1995

Mr. Andre de la Porte
Resident Representative
UNDP
P.O.Box 253
Port Louis
Mauritius

Dear Mr. Andre de la Porte

GEF - CLIMATE CHANGE AND BIODIVERSITY

I refer to your letter PRO/300/GEF/SEY (2347) of 25/9/95.

Please find attached, as requested, a copy of our original project proposal which has been reformulated to meet the GEF guidelines.

Dr. B. S. Nyenzi, Consultant for the Centre for Energy, Environment, Science and Technology who was on a recent visit to Seychelles to assess the present status of the Meteorological Service, particularly its operational status including human resources, in order to formulate a technical assistance for rehabilitating the services has reviewed and contributed to this final proposal. The proposal has also been adopted by the National Climate Change Committee.

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I trust you will now be in a position to forward the project proposal to GEF, Dr. Nyenzi can be contacted for support and opinion on the project should this be required at the Centre for Energy, Environment, Science and Technology, P.O.Box 5511, Dar es Salaam, Tel : 255-51-67569, Fax : 255-51-66079.

I look forward to an early and positive reply.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jeannette d'Orfay', with a large, sweeping flourish underneath.

Jeannette d'Orfay (Mrs)
Technical Adviser

FOR : PRINCIPAL SECRETARY

attc.
