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**GLOBAL ENVIRONMENT FACILITY
ENABLING ACTIVITY PROPOSAL**

Country:	Mauritius
Project Title :	National Biodiversity Strategy, Action Plan and First National Report to the Convention on Biological Diversity
GEF Focal Area:	Biodiversity
GEF Country Eligibility	Ratified the CBD on 4 September 1992
GEF Financing	US\$ 235,440
Government Contribution	In kind and personnel
Estimated Total Budget	US\$ 235,440
GEF Implementing Agency	UNEP
National Executing Agency (NEA)	Ministry of Agriculture and Natural Resources and the Ministry of Cooperatives, Fisheries and Marine Resource Development
GEF Operational Focal Point	Ministry of Economic Planning, International Trade and Telecommunications
CBD Focal Point	Ministry of External Affairs
Estimated Starting Date	June 1997
Duration of project:	12 months

I. Background/Context:

Its isolated location kept Mauritius from being settled until 400 years ago. On a world map, it is a tiny dot, in that vast expanse of ocean between southern Africa and Australia, at longitude 57.5 degree east, latitude 20 degree south, overshadowed by its much larger neighbour, Madagascar, 855 kms to the west. The island of Mauritius is 65 kms long, at its longest, and 45 kms across at its widest. There are 160 kms of coast line, almost entirely surrounded by coral reefs, while the center is a great plateau punctuated by mountains. Mauritius includes Rodrigues, 560 km to the north-east, and other scattered coral atolls such as Cargados Carajos and Agalega. The Mauritian state, including its dependencies, has a land area of only 2,045 km², although, because the islands are so spread out, its sea area is vast. In 1977, Mauritius, a signatory member to the Third Convention on the Law of the Sea, proclaimed its 200 nautical miles Exclusive Economic Zone (EEZ) extending over an area of 1.7 million km². The oceans, islands, coral reefs, lagoons and estuaries are closely linked with economic and other human activities. The marine environment contributes substantially to the island economy through rational exploitation of its living and non-living resources. The coastal zones attract human settlement, tourism, hotel development and other associated economic activities. The present estimated population of the Mauritius is 1.1 million with a growth rate of 0.8% per annum. With more than 500 people per km², it has one of the highest population densities in the world.

Due to the volcanic origin of Mauritius, its unique terrain is blessed with a diversity of flora and fauna not usually found in such a small area. The destruction of the endemic flora and fauna of Mauritius started with the islands discovery by the Portuguese four centuries ago. The dense forest and undergrowth that stretched from the mountain tops to the shore, covering the scars of evolution, has survived only in traces around Black River Gorge, Bel Ombre and the Kanaka Crater. A lot of forest areas were cleared to make room for sugar cane plantations. Despite these historical pressures, Mauritius and its dependency of Rodrigues are still globally recognized as centers of endemism for vascular plants, birds, reptiles and mollusks. Approximately 900 plant species occur in Mauritius, including eight endemic genera. About 300 of these species are endemic to the island, out of which approximately 80% are threatened. The flora of Rodrigues counts 145 indigenous species, of which 41 are endemic. A large proportion of the threatened plant species survive as tiny populations that possess a very high probability of imminent extinction.

Mauritius is home to 25 species of indigenous land vertebrates. The only mammal in Mauritius when it was discovered was the fruit bat or flying fox whose cousin, the Rodrigues fruit bat, was until recently in danger of being extinct. A large variety of wild fauna species was introduced by the settlers including the macaque monkey, wild pig, brown rat, hedge hogs, black naped hare, wild rabbit, Java deer, mongoose and Indian wolf snake. Some of these alien species, particularly the macaque monkeys, have caused much damage to the native flora and fauna by feeding on plants and birds' eggs. There are thought to be 2,000 species of insects and butterflies, three of which, the citrus, ficus and sailor varieties, are unique to Mauritius island. Reptiles are represented by a dozen species of lizards and boa type snakes confined to Round Island. Some 35 species of birds live in Mauritius of which 9 are the only remaining species

endemic to the island from the 25 that existed several years ago. One extinct bird species, the Dodo, represents a hall mark in the phenomenon of species extinction brought about by the introduction of alien species.

The freshwater bodies on the mainland of Mauritius comprise about 1,242 hectares of reservoirs and 340 hectares of rivers, streams and creeks in surface area. Fresh water fish fauna endemic to the island is limited to three species. There have been a series of introduction of exotic fish species since the arrival of settlers on the island. The introduced Tilapia has invaded almost every freshwater body. With subsequent introductions, the species composition and abundance of the fresh water flora and fauna have changed. A marked decrease has been recorded in the abundance of river shrimps as a result of overexploitation and possibly pesticides and herbicides run-offs from agricultural fields.

The fauna and flora in the wetlands and brackish areas are also under threat from the ever-growing development of adjacent lands. Apart from pollution stress, the coastal marine fauna and flora also endure pressures from overfishing, tourism and sand mining.

The marine fish fauna is very rich. Out of 240 species of fish which have been identified, 42 are of economic importance within the inshore area. The fish species composition and relative abundance in the nearshore waters of Mauritius, Rodrigues, Tromelin, St Brandon, Agalega and Chagos are different. The effects of overfishing of some species e.g. the Lethrinids are apparent on the fringing reefs of Mauritius with the result that population explosions of sea urchins *Diadema* sp. and *Echinometra* sp. have occurred. There is a relatively high abundance of sharks around the St. Brandon Islands.

There are seven species of Penaeid shrimps which have been identified in Mauritius near shore waters and two species of deep water shrimp. The other shellfishes comprise mussels, oysters barnacles and clams. Whilst some oysters are farmed, catches from the wild could be decreasing. *Crassostrea edulis* is the endemic oyster and there have been introductions of several other fast growing species for aquaculture which were not successful. *Octopus vulgaris* is fished in the lagoons of Mauritius, Rodrigues, St. Brandon and Agalega. There are several species of marine turtles and marine mammals. The fishing of marine turtles and marine mammals within the EEZ of Mauritius is banned.

Several species of sea stars and echinoderms are reported in the Mauritian waters. The coral eater *Acanthaster planci* is occasionally sighted on the fringing reefs. Mauritius has a rich algal flora. The marine floristic records of Mauritius date back to 1875. The Mauritius herbarium has a collection of more than three hundred marine algae. Over 160 genera of marine algae have so far been identified from the coastal waters of Mauritius. Algae are mostly used as baits by basket trap fisherman. Work on algal endemism is yet to be undertaken.

As mentioned above, the rich and unique biodiversity of Mauritius has been subjected to various pressures, since the discovery of the islands, that led to the extinction of several indigenous species of flora and particularly, fauna. Fortunately, since the 1930s, certain areas were declared as national reserves to be protected from all development. Today, such nature reserves number 18 covering approximately 7,405 hectares. The Government of Mauritius (GOM) is committed to saving its remaining biodiversity for sustainable development.

Mauritius was the first country in the world to ratify the Biodiversity Convention, and the GOM wishes to prepare a biodiversity strategy and action plan, as required by the Convention, to complement the highest priority actions already identified in its National Environmental Action Programme (NEAP, 1990) and the related Environmental Investment Plan (EIP). Mauritius is also a Party to the Convention on International Trade in Endangered Species (CITES). Significant impact has been made in halting terrestrial habitat destruction, through effective policies, legislations, public education, new investments and collaboration with NGOs, bilateral and multilateral agencies. A legal framework exists for protection of key habitats, nature reserves and restoration of some of its unique ecosystems. Following the recommendation of the NEAP, the GOM is supporting the establishment of the Black River Gorges National Park, and has reserved two un-inhabited offshore islands, Ile aux Aigrettes and Round Island, for species and habitat restoration.

II. Project Objectives and Short Description:

The objective of the project is to enable the GOM to develop a comprehensive programme for biodiversity conservation and sustainable use activities in the form of a national biodiversity strategy and action plan (NBSAP).

This activity will allow the government to fulfil also the obligations contained in Decision II/7 of the second meeting of the Conference of the Parties (COP 2) to the Biodiversity Convention regarding implementation of Article 6 of the Convention. The country is also seeking assistance to prepare the first national report to the CBD pursuant to Decision II/17 of COP 2.

The proposed NBSAP will be prepared using a multi-disciplinary, integrated and participatory approach, involving relevant government institutions and other public and private organisations including NGOs and local communities (refer to the Institutional Framework Section). A multi-disciplinary and multi-sectoral Task Force comprising of representatives of Government Ministries, and other relevant scientific organisations, NGOs¹, the private sector and local

¹ The Ministry of Agriculture has signed a Memorandum of Understanding, concerning cooperation with a group of international NGOs and the Mauritian Wildlife Fund in matters of biodiversity conservation. The Task Force shall include members of this group which has a good record to work on the islands and enjoys and excellent working relationship with the GOM and local private sugar cane estates.

communities will be formed to oversee the implementation of this project ensuring that public outreach is integrated in the process. The Task Force will designate a core group (Planning Team) which will at the onset of the project receive orientation on the objectives of the project and methodologies for its implementation, and lead its execution. This Planning Team will be assisted by national consultants and international experts when necessary.

The process of options identification and analysis required for the conservation and sustainable use of biodiversity will be developed over a four month period, paying special attention to raising public awareness on biodiversity issues. Public outreach will include consultations with all major stakeholders including local communities which will be in the form of local seminars and workshops in the mostly inhabited islands (Mauritius and Rodrigues), as well as information through public media. A first national workshop will be organised by the Planning Team to present the views gathered in the local consultations. The local and national workshops will draw together representatives from a wide range of stakeholders: Government ministries officials, the private sector such as the tourism industry, local communities representatives and NGOs. The various reports coming from the local workshops will be consolidated into a single National Strategy and Plan of Action which will be presented and discussed at a second national workshop before its finalization by the Planning Team.

The preparation of the first national report to the CBD will enable Mauritius to meet the obligations under Article 26 of the Convention as stipulated in Decision II/7 adopted by the second meeting of the Conference of the Parties to the CBD (COP2). It will be prepared largely by national consultants according to the guidelines set out in Decision II/7. An interim report will be submitted to the Convention Secretariat by the deadline of 1 January 1998 stipulated by COP3, based on the already existing information concerning biodiversity status and trends, and on-going measures and programmes to protect biodiversity in Mauritius. A full report will be prepared upon completion of the NBSAP.

III. Operational Criteria:

i) Coverage without duplication:

All efforts will be made to formulate NBSAP with the support of all relevant institutions within and outside the government, academia, scientific bodies, local communities, NGOs and the private sector (see Section IV Institutional Framework).

The NBSAP will make use of existing capacity and information such as those derived from on-going and past projects. The Pilot Phase UNDP/GEF project, Restoration of Highly Degraded and Threatened Native Forests in Mauritius, has researched on effects of exotic species on native biodiversity and developed measures against invasive species. Another World Bank/GEF project, Biodiversity Restoration, is assisting efforts to restore degraded habitats in Rodrigues, Ile aux Aigrettes and Round Island. It will propagate and reintroduce critically endangered flora and fauna on these three islands, and strengthen local technical and administrative skills for conservation and ecosystem restoration. WWF has been running for the last ten years a successful propagation and reintroduction programme in Rodrigues Island. A Management Plan for the restoration of Round Island is currently under implementation by the Jersey Wildlife Preservation Trust and Ministry

of Agriculture and Natural Resources. Through IBRD/GOM financed Environmental Monitoring and Development Project, a programme to monitor marine pollution and ecosystem health has been launched. Another proposed IBRD/GOM initiative, Port Development Project, will provide for ship oily wastes reception facility and an oil spills contingency plan. The European Union/Indian Ocean Commission funded Programme for Coastal Management and Plant Conservation is expected to soon begin its activities. The GOM is funding the Management of Nature Reserves Initiative and received support from the Overseas Development Administration (UK) for the surveys of fauna and flora through the Offshore Islets Initiative which provided recommendations for conserving biodiversity on the various islands.

ii) Appropriate overall sequencing of activities:

The project will be implemented over a period of 12 months using the following schedule:

	Activity/Month	1	2	3	4	5	6	7	8	9	10	11	12
1	Formation of Task Force and Planning Team	x											
2	Orientation of Planning Team and consultants in biodiversity analysis and planning		x										
3	Review of existing information, preparation of local seminars			x	x								
4	Initiation of local seminars				x	x	x	x					
5	First National Workshop							x					
6	Drafting of NBSAP document							x	x	x			
7	Circulation of draft NBSAP for comments									x	x		
8	Second National Workshop											x	
9	Finalisation of NBSAP											x	
10	Printing and publication of NBSAP											x	x
11	Preparation and submission of first national report to COP*						x	x				x	x

*Because of the deadline of 1st January 1998 for submission of first national reports to the Secretariat of the CBD, Mauritius will prepare a preliminary report for this purpose. A full report will be prepared upon completion of the NBSAP.

V. Project Financing**Project Budget (US\$) Mauritius NBSAP**

Activity	Product	Process	Total
1. Assessment of Existing Information	15,000	0	15,000
- National consultants	7,000		
- Collection of data/documentation	3,000		
- Reports	4,000		
- Miscellaneous	1,000		
2. Identification and analysis of options	30,000	77,000	107,000
- Orientation Workshop for Planning Team and consultants		5,000	
- Consultations with stakeholders/local seminars (travel, per diem, facilities: 3 workshops x 40 participants each)		30,000	
- First National workshop (travel, per diem, facilities)	12,000	12,000	
- International Consultants	12,000	10,000	
- National Consultants	4,000	20,000	
- Reports	2,000		
- Miscellaneous			
	44,000		
3. Preparation of NBSAP		42,000	86,000
- Second National Workshop	6,000	12,000	
- National Consultants	9,000	18,000	
- International Consultant		6,000	
- Task Force Consultations (travel, per diem, facilities)		6,000	
- Dissemination, Public awareness, Media campaign	20,000		
- Printing & Publication	7,000		
- Miscellaneous	2,000		
	10,000		
4. Preparation of First National Report	4,000	0	10,000
- National Consultants (preparation/editing)	5,000		
- Printing & Publication	1,000		
- Miscellaneous			
	17,440		
5. Co-ordination & Management (8%)		0	17,440
Total	116,440	119,000	235,440

VI. Deviations from norms and criteria: None.

iii) Best practice:

The methodologies for the implementation of this sub-project will be based on the following guiding documents: i) "Guidelines Biodiversity Planning" (WRI/UNEP/IUCN 1995), ii) Operational Criteria for Enabling Activities: Biodiversity (GEF Secretariat), and iii) A guide to the Convention on Biological Diversity (IUCN 1994). The First National Report to the CBD will be based on the existing information collected and progress achieved in preparing the NBSAP.

IV Institutional Framework:

The project will be implemented by the Ministry of Agriculture and Natural Resources and the Ministry of Cooperatives, Fisheries and Marine Resources Development. The former will be responsible for the part of the NBSAP dealing with terrestrial biodiversity while the latter will have responsibility for the part concerning aquatic biodiversity. The Conservation Unit of the Ministry of Agriculture and Natural Resources looks after National Parks and has the expertise in dealing with such work. The Albion Fisheries Research Centre of the Ministry of Fisheries, Cooperatives and Marine Resource Development is the national centre for fisheries and marine resources development and conservation and has the capacity of dealing with NBSAP's component on coastal, marine and other aquatic biodiversity.

The Ministry of Agriculture, Fisheries and Natural Resources was involved in 1985 in the preparation of a White Paper for a National Conservation Strategy during which projects for the conservation of terrestrial and marine biodiversity were identified. It is to be noted that a separate ministry was created about two years ago to deal with fisheries and marine resources.

The National Executing Agencies will ensure that a broad spectrum of stakeholders representatives participate in the elaboration of the NBSAP to validate its authorship and reinforce its ownership by the people of Mauritius. A Task Force shall be established which will have the overall responsibility for guiding the implementation of this project. The Task Force will have representatives from other key ministries, government departments and agencies, national and local NGOs, scientific institutions, and the private sector. The following agencies and institutions will be participating in the preparation of the NBSAP: Ministry of Agriculture and Natural Resources; Ministry of Environment and Quality of Life; Ministry of Economic Planning, International Trade and Telecommunications; Ministry of Fisheries, Cooperatives and Marine Resource Development; Ministry of Housing and Land Development; Ministry of Tourism; Mauritian Wildlife Foundation; and Mauritius Institute.

This Task Force will be chaired by the Permanent Secretary, Ministry of Environment and Quality of Life. It will establish a core group, the Planning Team, which will be responsible for planning and carrying out activities described in this project, assisted by national and international consultants when necessary. At its first meeting, the Task Force will agree on methodologies and indicators for assessing progress and performances in the implementation of the project. Thereafter, it will meet at regular intervals (at least 3 times in the duration of the project) to evaluate implementation progress.

TABLE A: Dimensions of Enabling Activities (Standard Activity Matrix), Mauritius NBSAP

Enabling Activity	Output	Capacity		Building	Public Participation	Comments (See footnotes)
		Institutional Strengthening	Training			
Stocktaking of existing information - biodiversity and biological resources - cross-sectoral issues - policy and regulatory framework - institutional and human capacity - analysis of root causes of BD loss - technologies for conservation and sustainable use - activities with adverse impact - existing measures and programmes - preliminary statement of objectives - identification of gaps - assessment of existing needs	x, NEAP, ODA, WWF, IOC, UNDP x, IBRD x, NEAP x, IOC, IBRD, GOM x, UNDP, IBRD x, UNDP, IBRD, WWF, JWPT x, IOC, UNDP, IBRD x, UNDP, IBRD, JWPT, IOC x, NEAP x x, NEAP, EIP					1,2,3,4,5,6,7,8
Identification and Analysis of Options to meet the objectives of the CBD - strategies for conservation - strategies for sustainable use - strategies for benefit sharing	x, IOC, WWF, NZ, UNDP, IBRD x x	x x x	x x x			x x x
Planning and Preparation of NBSAP - national strategy - national action plan	x x	x x	x x			x x
Preparation of the First National Report	x		x			x

x activity to be undertaken in this project

Footnotes:

1. National Environmental Action Programme (1990)
2. The Overseas Development Administration (ODA, UK) assisted the GOM with funding for the Offshore Islets Initiative for the surveys of flora and fauna.
3. WWF has been running for many years a propagation and reintroduction programme in Rodrigues Island.
4. The Indian Ocean Commission (IOC) together with the European Union are funding the programme for coastal management and plant conservation.
5. The pilot phase UNDP/GEF project on Restoration of Highly Degraded and Threatened Native Forests in Mauritius.
6. The World Bank (IBRD) is assisting three projects of relevance to the NBSAP: Biodiversity Restoration Project; Environmental Monitoring and Development Project; Port Development Project.
7. The Jersey Wildlife Preservation Trust of (JWPT) is implementing the Management Plan for the Restoration of Round Island together with the Ministry of Agriculture and Natural Resources.
8. The Environmental Investment Plan (EIP) prepared by the GOM to identify the highest priority actions in the framework of the NEAP.



Ministry of Economic Planning and Development
Republic of Mauritius

MEPD/TA/20/4/13/3

April 24, 1997

Mr Ahmed DJOGHLAF
UNEP/GEF Executive Coordinator
UNEP
P O Box 30552
Nairobi
Kenya

Dear Sir,

**National Biodiversity Strategy, Action Plan and First National Report to
the Convention on Biological Diversity in Mauritius**

This is to inform you that the Government of the Republic of Mauritius fully endorses the project proposal "National Biodiversity Strategy, Action Plan and First National Report to the Convention on Biological Diversity in Mauritius".

The Ministry of Economic Planning and Development has full confidence that this project will create sufficient capacity within the relevant Government Ministries to initiate a process of biodiversity planning and fulfill the reporting requirements under the Convention on Biological Diversity with respect to the First National Report.

Yours sincerely,

G Wong So
Director, MEPD
&
GEF National Operational
Focal Point