

MARINE ECOSYSTEM MANAGEMENT PROJECT  
SEYCHELLES GEF TF023943  
COMPLETION REPORT

**I. Basic Data:**

Date of Completion Report: July 24, 2004

Project Title: Seychelles Marine Ecosystem Management

GEF Allocation: \$750,000

Grant Recipient: Government of Seychelles

Task Team: Bienvenu Rajaonson

Goals and Objectives:

The stated **goal** of the project is:

“Successful management of Seychelles’ unique and threatened marine ecosystems in light of recent global and local changes, in particular coral bleaching.”

The main **objective** of the project is:

“To identify, monitor, manage and rehabilitate remnant ecosystems by the removal of critical barriers including lack of skills, scientific understanding and conservation management knowledge and direction.”

Over the duration of the project , no changes were made to the original stated goal and objective of the project.

Financial Information: Discrepancies were noticed in the three categories of the financing plan. Therefore overall, the Goods category was reduced with a view to have more means to fund public awareness programs, training sessions to partners & Government officials and, for key studies required for the monitoring and evaluation system.

**GEF Budget, financing plan:**

<b>Category</b>	<b>Planned</b>	<b>Actual</b>	<b>Discrepancy</b>
Goods	160,000	132, 321.26	27,678.74
Operating Costs	170,000	173,036.17	3,036.17
Services & Training	417,000	441,163.29	24,163.29
<b>Undisbursed balance</b>		479.28	
<b>Total</b>	<b>747,000</b>	<b>747,000</b>	

**Table: A: Co-financing**

\* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

Co-financing (Type/Source)	IA own Financing (mill US\$)		Government (mill US\$)		Other** (mill US\$)		Total (mill US\$)		Total Disbursement (mill US\$)	
	Proposed	Actual	Proposed	Actual	Proposed	Actual	Proposed	Actual	Proposed	Actual
Grants	-	-	0.517*	0.284	-	-	0.517*	0.284	0.517*	0.284
Loans/ Concessional/ market rate	-	-	-	-	-	-	-	-	-	-
Credits	-	-	-	-	-	-	-	-	-	-
Equity investments	-	-	-	-	-	-	-	-	-	-
Committed in-kinds support			See * note	0.300		See** Note		0.300	See* note	0.300
Other	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	0.000	0.000	0.517	0.584	0.000	0.000	0.517	0.584	0.517	0.584

\*The Government of Seychelles had initially pledged USD 517,000 as both in-kind and in cash contributions to the project. However, as shown in the table, USD 584,000 was received against the pledged amount.

\*\*MCSS carried out complementary activities in addition to activities specified under the project by utilizing the funds to forge new partnerships for conservation and attract further assistance whether that be financial, in kind or voluntary. For instance, a working group on strategic management of turtle populations was constituted and funded by the British Foreign and Commonwealth Office; launch of fundraising appeal from local businesses and individuals to conserve the priority turtle rookeries that remain on the three main developed/populated islands in the Seychelles ( Mahe, La Digue and Praslin) had been undertaken.

**B. Leveraged Resources**

No resources additional to the amount were leveraged for the project.

**II. Project Impact Analysis**

Planned activities	Indicators	outputs
1) <u>Identify recent changes to key marine ecosystem components</u> i. Current status of coral reef systems: -Rapid Assessment of sites and Training,  -Training of local personnel to do wide-scale assessment of	i. Monitoring workshop to determine data needs and stakeholder capacity; Rapid assessment of approx.60 sites maps and reports produced; ii. Local personnel in 5 organizations trained and participating in assessment;	Achieved          Achieved

<p>live coral and algal cover, and definition of baseline environmental parameters through compilation and analysis of unpublished data from recent surveys, rapid and repeatable field surveys (GCRMN and AGRRA methods) and establishment of permanent monitoring transects</p> <p>ii Assessment of key ecosystem indicators: whale sharks and other fish assemblages and marine turtle breeding and feeding ecology at sites of global importance and with previous monitoring history</p>	<p>iii. Comparative data for sub sample of 20 key sites reported and permanent transects established for long term monitoring;</p> <p>v. Comparative data for key marine ecosystem indicators reported;</p> <p>vi. Sites of regional network (IOC) examined and data fed into regional program;</p>	<p>Achieved</p> <p>Achieved</p> <p>Achieved</p>
<p>2) <u>Identify impacts on key ecosystem components</u></p> <p>i. Analysis of the systemic causes of coral reef ecosystem degradation and compounding synergistic effects (e.g. global warming, pollution, sedimentation, fishing)</p> <p>ii. Analysis of cumulative impacts on coral reef, fish assemblages including whale shark, and marine turtles.</p>	<p>i. Report produced and Data fed into regional program for further analysis and modeling.</p> <p>ii. Predictions reported on cumulative impacts and sensitivity of different impacts on reef integrity at 20 sites;</p> <p>iii. Trends in health and survival of whale shark, other fish, and marine turtles reported and conservation policy agreed</p>	<p>Achieved</p> <p>Achieved</p> <p>Achieved</p>
<p>3) <u>Evaluate the socio-economic impacts of marine ecosystem degradation in Seychelles</u></p> <p>i. Valuation of marine ecosystems and resources</p> <p>ii. Impacts on socio-economic sectors</p> <p>iii. Adaptation strategy</p>	<p>i. Socio- economic report;</p> <p>ii. Environmental services of marine ecosystems and components calculated;</p> <p>iii. Recommendations drawn up for instruments to be adopted, action to be taken and potential partners to be identified</p>	<p>Achieved</p> <p>Achieved</p> <p>Achieved</p>
<p>4) <u>Cope with impacts on marine ecosystems and components through direct measures</u></p> <p>i. Promoting minimization of human- induced impacts within and adjacent to key refugia: watershed management and reduction of land based sources of pollution, design and implementation of a mooring</p>	<p>i. Management of watersheds at 2 major pilot sites, reduction of local downstream impacts identified and mitigation agreed; successful techniques to be used as best practice;</p> <p>ii. Mooring buoys installed at 20 sensitive sites, private sector brought</p>	<p>Achieved</p> <p>Achieved</p>

<p>installation program to prevent physical damage by nautical activities</p> <p>ii. Removal of grazing organisms that form plagues (Crown of Thorns starfish and sea-urchins) at selected critical sites</p> <p>iii. Conservation program for whale sharks</p>	<p>into program and MOUs signed for use and maintenance;</p> <p>iii. Removal of plague organisms at 20 sites through programmed private sector and Government action;</p> <p>iv. Tagging of 50% of whale shark population in granitic Seychelles by NGO with passive, telemetric, archival and satellite tags and set up of database to improve monitoring of local and regional population.</p>	<p>Achieved</p> <p>43%</p>
<p><u>5) Cope with impacts on marine ecosystems through institutional strengthening</u></p> <p>i. Review of existing marine protected areas. Propose long term arrangements for a marine protected areas network through systems planning and implementation.</p> <p>ii. Management planning and implementation for key ecosystem human interaction (reefs, whale sharks and other fish, and marine turtles) through integrated coastal and marine area management process.</p> <p>iii. Establishment of a long term capacity within MET.</p>	<p>i. Marine protected area systems plan adopted;</p> <p>iv. Integrated wider marine site and protected area implementation modalities adopted and implemented;</p> <p>ii. Private and NGO sector brought into active management;</p> <p>iii. Integrated wider marine site and species management plan produced (reef, whale shark and other fish, and marine turtles);</p> <p>iv. A Marine Unit was set up and trained within the Ministry for Environment.</p>	<p>Achieved</p> <p>Achieved</p> <p>Achieved</p> <p>Achieved</p> <p>Achieved</p>
<p><u>6) Public information and education</u></p>	<p>i. Quarterly newsletter; 1 brochure; 1 poster; 15 articles; 5 television programs; 10 public lectures and 3 educational workshops held; 2 public workshops and 3 consultative pathfinder meetings with stakeholders; 1 public workshop and 2 further meetings with stakeholders to agree progress and final reports.</p>	<p>Achieved</p>

**(2) Project Sustainability.**

The project sustainability is rated 'Likely'. One could base the assessment on four factors which are as follows: (i) A Marine Unit was set up in 2001 to assist with the implementation of specific components of the project. The Marine Unit was responsible

to the Conservation Section of the Ministry responsible for Environment and consisted of an Assistant Conservation Officer and three Rangers. As a result of their training and subsequent field experience, the Marine Unit personnel now possess fine monitoring skills and extensive knowledge of the coral reefs of the inner granitic islands. This has enabled the Ministry to use these personnel to scientifically assess marine-related development projects, including some in the outer islands. The Marine Unit will now remain a Unit within the Conservation Section of the Ministry responsible for the Environment which operating cost will be funded by the Government. It will follow up on some of the recommendations and monitoring systems generated by the project. The Unit will also be able to deal with marine environmental policy issues; (ii) Legislation has been enacted to protect whale sharks in Seychelles territorial waters and a whale shark encounter protocol is in the process of being formalized by Government and recommendations for further protection of turtle nesting habitat, in particular, are outlined; law enforcement will follow; (iii) Broad stakeholder involvement was important throughout the project through public training and information and is expected to reduce the anthropogenic pressures on coral reefs, reef fishing and turtle nesting areas; (iv) Equipment and procedures during this program will continue to be used for continued monitoring of studied species and environmental and marine parameters long after the end of this program and as such add further to the technical and scientific capacity in Seychelles.

Nevertheless, to ensure the continuation of project activities, the following 8 key factors need to be considered: (i) The long-term protection of the emerging diversity of coral communities may only be achieved through an extensive network of suitably protected marine areas that are actively managed to reduce the potential impacts of factors known to reduce coral recruitment and subsequent growth and reproduction. Such a network of protected areas needs to be developed on the basis of the emerging patterns of hard coral distribution and abundance, with the aim of incorporating as much of the local coral diversity as possible; (ii) The main required actions relate to protection of the coral reef habitat of fish, maximizing reproductive capacity and maintaining sustainable reef fisheries; (iii) Regional approach to the monitoring and conservation of whale sharks should be pursued as a matter of urgency utilizing existing international structures such as the Convention of Migratory Species and the Agreement on International Straddling Fish Stocks; (iv) The main conservation policies for turtles are to continue protection, minimize turtle mortality and maximize and preserve nesting habitat; (v) Protection of wetlands ensures better protection of coastal marine habitats; (vi) Ensuring that Mooring Programs are integrated as a management tool in any and all Marine Protected Areas and multi-use area programs; (vii) Proper management of the coastal zones in general, and of Marine Protected Areas (MPA) in particular, makes both ecological and economic sense. Management measures include credible enforcement, enhancing the attractiveness of tourism, monitoring, and developing new MPAs in areas with high quality biodiversity, which are not yet protected; (viii) the Integrated Marine Protected Areas Systems Plan first has to be adopted as the national macro-level plan for MPA management within Seychelles.

### **(3) Replicability**

The project achieved to share its own experiences with other institutions and states, based on the data results, information dissemination activities and partnership programs within the project. Value added of this project among others have been the inclusion of an evaluation of the socio-economic impacts within its design and implementation, which

indicates natural resource management a good-practice for replication in other areas. In addition, public information activities have allowed greater benefits to accrue in the local community and has also developed a degree of ownership, which in turn have had a positive impact on the different sectors of the population. This in turn is likely to have both regional and global benefits, as pro-active conservation and local stakeholder-driven management can benefit others in the region when similar programs are initiated.

#### **(4) Stakeholder Involvement:**

The project was implemented by different organizations, namely a Ministry, a Parastatal and an NGO. These were the Ministry responsible for Environment (ME), the Marine Parks Authority (MPA) and the Marine Conservation Society of Seychelles (MCSS). Each organization had individual responsibility for the implementation of their respective project component. Other Organizations such as the Ministry of Land Use and Habitat, the Seychelles Fishing Authority, the Seychelles Islands Foundation were brought into the project, through collaboration to enable wider stakeholder participation and support and to build local capacity.

A Project Steering Committee was set up and included representatives from the Ministry of Foreign Affairs, MCSS and Ministry of Environment & Natural Resources. The GEF/SEYMEMP management group consisted of members from all the implementing agencies and observer stakeholder members forming the Project Steering Committee. Involvement of local stakeholders was found to be fundamental to all program components, with the utilization of public workshops (publicized in the local media and supported by a targeted invitation campaign) being a prime and direct way of ensuring active participation. Particularly, these workshops and the media have proved useful in increasing awareness amongst reef users, including boat handlers, divers and snorkelers or the general public.

Overall the workshop format has been very productive not only in informing the public and stakeholders of the activities of the project but also by allowing direct participation in the decision-making process.

#### **(5) Monitoring and Evaluation**

Monitoring and Evaluation of the project has been a success. The Project Steering Committee met on a regular basis to discuss mainly issues relating to the progress of the various components being implemented under the project. The Project Steering Committee's main role was to ensure that each implementing agency attained their commitment in terms of implementation responsibility and achieving the project's objectives. The project coordinator was delegated tasks related to the issues discussed at the Steering Committee meetings which included preparation of the minutes, forwarding of correspondence and documents, correspondence with stakeholders to advise of the project progress and issues discussed, compilation of progress reports. Issues raised at the Steering Committee level were discussed and resolved mostly through general consensus by the members. If however there could not be a general consensus, the Steering Committee members had the power of vote, which could be used so that a way forward could be achieved. As the project involved a multiple of agencies, it was inevitable that there were greatly varying opinions on certain issues that were tabled for discussion.

Effective monitoring of the indicators to achieve the project objective and goals was carried out during the project. The actual project outputs and outcomes indicate that the project successfully met its objectives. As part of the project, tools and instruments have been developed to ensure a coherent report system. These mainly resulted from good scientific surveys which were conducted as part of project activities.

### **III. Summary of Main Lessons Learned.**

- The long-term protection of the emerging diversity of coral communities may only be achieved through an extensive network of suitably protected marine areas that are actively managed to reduce the potential impacts of factors known to reduce coral settlement and subsequent growth and reproduction.
- Such a network of marine protected areas needs to be developed on the basis of the emerging patterns of hard coral distribution and abundance, with the aim of incorporating as much of the local coral diversity as possible.
- Projects designed of such nature will contribute towards the identification of new areas for protection and priorities. And also impact the evolution of the MPA system which focuses upon aspects such as, an adaptation strategy, a socio-economic adaptive strategy, Turtles and tourism, Wetlands management, importance of Mooring installations, Monitoring and research, Preserving critical nesting habitat, Sustainable reef fisheries and minimizing anthropogenic threats on Corals and coral reefs.
- As part of project implementation the merging and integration of multiple agencies, NGO and the Government, is a first in the Seychelles. It proved to be a learning process in many respects. The project Steering Committee that was set up played an important role as a platform for constructive problem-solving so that all the partners involved could benefit from the resource that was available to attain the project objectives.
- The new approach, which was novel and experimental, was subject to further scrutiny in many instances, relating to government bureaucracy. Should a further joint program be initiated it might be adequate to have an appropriate financial mechanism put in place to ensure that the funds are released in a timely manner.
- Such a designed project required constructive sharing of technical facilities and expertise (such as scientific monitoring), and partnerships were forged through several local and international organizations taking part in it. From the various activities that were implemented within the project, new ideas and recommendations can be drawn for the benefit of future partnerships. As follows is a list of key recommendations: 1. Coral biodiversity sites should be given priority consideration when identifying new areas for protection; 2 If coral biodiversity sites are currently subject to tourism or other human pressure, mooring buoys should be provided; 3 Continued monitoring of hard coral recovery and diversity are fundamental to future management responses; 4 Priority should be given to the introduction of, and compliance with, environmental practices on land and in the sea that reduce point source pollution and sedimentation; 5 Surveillance and enforcement activities in local Marine Protected Areas need to

be improved if a wider array of fishes is to benefit from the undeniable positive effects of proper and adequate management actions; 6 Known fish spawning aggregation sites should be given maximum protection from fishing activities at critical times of the year. Seasonal closures of these key reef sites and/or protection of fish species targeted at those times will provide a significant benefit to the long-term sustainable use of local reef fish populations; 7 Regional approach to the monitoring and conservation of whale sharks should be pursued as a matter of urgency utilizing existing international structures such as the Convention of Migratory Species and the Agreement on International Straddling Fish Stocks; 8 All critical turtles nesting habitat which have been inventoried should be assigned a zoning designation, with proper regulations and any new development regulated accordingly; 9 Evaluate the potential for developing special 'Turtle Tours' which guarantee the sight of a nesting turtle and consider licensing tour operators who lead 'Turtle Tours'; 10 Ensure that Mooring Programs are integrated as a management tool in any and all Marine Protected Areas and multi-use zoning programs; 11 Measures to be taken include improvement of tourism services, development of whale shark tours and turtle watching tours as well as proper enforcement and good monitoring; 12 Alternative income generation should also be considered but the overall costs to tourists should not increase. This requires a very well thought-out plan for sustainable financing of the MPAs; 13 The Integrated Marine Protected Areas Systems Plan first has to be adopted as the national macro-level plan for MPA management within Seychelles; 14 A main priority is the creation of effective management capacity.(i) Administrative structures should as much as possible be streamlined and harmonized to provide clarity and ease of function for MPA managers and users alike. (ii) A priority action under the IMPASP should be to enable the process of decentralization and the development of partnerships for MPA management; 15 When selecting new areas, selection criteria should include ecological, economic and 'other', but ecological criteria should be the pre-eminent concern.

#### **IV. Financial Management Status**

Regarding the Audit Report, the statement of accounts properly presents the financial position of the Grant Fund as of 31 March 2004, and the project management reports submitted during the 15 months period, together with the procedures and internal controls involved in their preparation, can be relied upon to support the related withdrawals.

The final Audit Report covers the period from 1<sup>st</sup> January 2003 to 31<sup>st</sup> March 2004. Due date was September 30, 2004.

Received by task manager: Yes.