Biodiversity Conservation and Abatement of Marine Pollution

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Introduction

1. The project grew out of the Bank's involvement in the preparation of the Environmental Management Plan of Seychelles (EMPS). At the Government's request, certain projects in the EMPS were incorporated by the Bank into an integrated Environment and Transport Project which included the GEF component. The GEF part which is reviewed in this report consisted of actions to reduce marine pollution and several measures to protect biodiversity. This included the restoration and preservation of the ecosystem of Aldabra Atoll, the protection of endangered sea turtles and giant tortoises and the design of waste reception facilities at the Port of Victoria. Complementary financing for biodiversity conservation activities was provided through a Dutch Trust Fund in 1994 which was also administered by the Bank.

Project Objectives and Components

2. The objectives of the GEF Project as defined in the Staff Appraisal Report were to protect biodiversity and limit pollution of international waters around Seychelles. The project comprised three main components:

Component 1: Restoration and preservation of the Aldabra ecosystem This was to be achieved by the rehabilitation of the scientific research station; strengthening of scientific and managerial personnel; and eradication of feral goats and preparation of a long term management plan for Aldabra.

Component 2: Conservation of biodiversity. This was to be achieved by the preparation of comprehensive management plans to prohibit or restrict the exploitation of two species of marine turtles, a Green Turtle protection program and the Hawksbill Turtle protection program. Two important modifications were made subsequent to the Appraisal Report, namely the removal of a turtle ranching component and the inclusion of a Giant Tortoise protection and Management Plan component.

Component 3: Actions to limit pollution of international waters This was to be achieved by a feasibility study and engineering designs for the construction of facilities to receive and dispose of waste from commercial and fishing vessels at the port of Victoria. The purchase of oil spill tracking and control equipment, subsequently added to this component, was made possible when additional funds were made available following exchange rate fluctuation between the SDR and US dollar.

Overall the Project objectives were appropriate and realistic.

Implementation Experience and Results

· Institutional Development: Institutional development has been satisfactory although further improvements are still necessary to develop the managerial capacity at the Seychelles Islands Foundation which manages Aldabra and Vallee de Mai World Heritage sites. The project has resulted in improvements in legislation, policy and scientific skills.

· Physical Objectives: Physical objectives of the project have all been achieved and in some cases have even been surpassed. The research

facilities on Aldabra, which originally were to be repaired only, have now been successfully reconstructed. Equipment for the laboratory, turtle monitoring, and oil spill tracking and control (not foreseen in the original plan) was purchased and delivered.

· Global Environmental Objectives: Global environmental objectives are deemed to have been achieved satisfactorily. The turtle shell industry is now illegal, and turtles and tortoises protected and monitored. While disposal of the turtle shells collected under the turtle protection component was not part of the agreements under the project, the existence of some shells, even in sealed containers, could present a danger to the continued successful enactment of the legislation to ban turtle shell trade.

· Overall Implementation and Operation: Overall implementation and operation under the project are considered to have been highly satisfactory. The National Environment Management Plan (EMPS) Coordinator has facilitated the process locally and the implementing agencies have further improved their abilities to supervise implementation of various components.

· Costs and Implementation Timetable: The project closing date was extended from December 31, 1996 to December 31, 1997 based on the availability of additional funds in the budget from exchange rate fluctuations between the Special Drawing Rights (SDR) in which the Grant was made available, and US$ in which the Grant was disbursed. Additional activities were undertaken using these savings. All original project components were completed within the projected budget with the exception of the Study of Waste reception facilities which had an actual cost overrun of 43 percent in dollar terms as compared to appraisal estimates. This cost overrun was due to underestimation of the scope of the study during project preparation and to exchange rate fluctuation (between US$ and NGL) during implementation and not caused by poor management.

· Performance of the Bank and the Grant Recipient: In spite of high staff turnover on both sides (the Bank has had a turnover of three task managers during the first two years of project implementation and the Grant recipient has had three project coordinators) and difficulties in

supervising project implementation on Aldabra, the teams were successful in implementing the project satisfactorily. The overall performance of the Bank and the Grant Recipient is deemed to have been highly satisfactory.

Summary of Findings, Future Operations and Key Lessons Learned

3. Overall, the outcome of the project is highly satisfactory. All of its objectives have been achieved and in some cases (preparation of giant tortoise management plans, and reconstruction of the Aldabra research station) they have surpassed the original project expectations. Sector policies, financial, physical and environmental objectives were all met. The project has benefited the international community, by addressing issues of global concern, and the Seychelles by assisting it to protect key components of its biodiversity.

4. The Aldabra component has been instrumental in establishing a working environment that is conducive to scientific work as well as long term management of the Aldabra World Heritage site. The new research station will permit future generations of scientists to build on the already existing body of work that has been conducted in Aldabra. The implementation of the management plan will ensure that the long term objectives of preserving Aldabra for posterity will be accomplished.

5. The restoration of the fragile ecosystem of Aldabra through the removal of one of the main introduced threats has been completed, although the eradication of goats on most of the atoll remains somewhat elusive due to the existence of a few remaining animals. Though strong signs of inbreeding have been noted on the most recent goats eradicated, there remains a risk that the population rebuilds itself over time. The SIF recognizes the threat and has decided to undertake a continuous goat eradication campaign to address the problem. The goat eradication campaign

is now combined with the effort to eradicate cats and rats on Aldabra.

6. Incremental cost analysis: The benefits generated through the GEF project have been primarily global in nature. The eradication of goats is almost entirely a global benefit. The other benefits include improvement of the management capacity on Aldabra and reconstruction of the research facility, with a view to facilitate international scientific research.

7. It was highly unlikely for the GoS to be able to allocate any of its own scarce resources to finance the Aldabra restoration program, or to secure any financing for this purpose without GEF assistance. To ensure sustainability of the achievements under the project and recognizing that Aldabra is unlikely to become financially self-sufficient in the near future, the SIF has committed itself to continue subsidizing the operations and maintenance of the research station for the benefit of humanity as stipulated in the World Heritage Convention.

8. The sea turtle component has led to a dismantling of about 1% of the industry base of Seychelles thus having some negative impact on the country's economy. The negative impact has been offset through the artisan retraining program. All the artisans in the turtle shell business have been retrained and are now exercising other revenue earning professions. The goodwill generated and the increased tourism revenues from the turtle protection campaigns can be sustained through maintenance of a healthy sea turtle population and are also considered positive impacts. Over the next few years the likely increase in turtle population could also have positive global benefits and would market Seychelles as a unique place for sea turtle eco-tourism.

9. Future Operations and Recommendations: It is recommended that a project be designed to build the facilities recommended in the MARPOL study.

Turtle and tortoise legislation can be further improved by removing the inconsistencies in the existing laws and by enforcing a more realistic level of fines. The institutional capacity of the SIF should be strengthened through appointment of a high level executive officer with appropriate scientific and managerial experience, and the position of National Coordinator should be enhanced to better reflect the importance of its role.

Key Lessons Learned:

· In countries with limited human capacity, a focal Government-appointed project coordinator, in this case the EMPS Coordinator, with experience in project management and a good understanding of the sectoral issues is key to timely implementation of the project and can ensure smooth linkages between the implementing agencies and the donor community.

· A high staff turnover during project implementation can be detrimental to the successful implementation of projects with a large number of technically different components.

· For project components involving strong socioeconomic elements, such as eliminating industries based on endangered turtles, a socio-economist or environmental economist should be involved in project design and implementation.

· For complex natural resources projects, adequate resources should be in place to ensure close supervision of the project by a multi-disciplinary team.

· For projects which will be implemented in isolated areas, such as Aldabra, project design should include measures (e.g. improved communication links, frequent staff turnaround) to alleviate human and environmental pressures on the project staff.