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**GOS- UNDP-GEF**

**MAINSTREAMING BIODIVERSITY MANAGEMENT INTO PRODUCTION SECTOR ACTIVITIES**

**TERMS OF REFERENCE**

**FOR**

**INTERNATIONAL SHORT-TERM CONSULTANCY**

**THE ESTABLISHMENT OF BASELINE AND DEVELOPMENT OF A MONITORING AND ASSESSMENT PLAN FOR THE ARTISANAL FISHERY ON PRASLIN**

### **INTRODUCTION**

The ‘*Mainstreaming Biodiversity Management into Production Sector Activities*” (or “*Mainstreaming Biodiversity*”) Full sized Project was signed in October 2007 between the Government of Seychelles (GOS) and the United Nations Development Programme (UNDP), and is funded by a Global Environment Facility (GEF) grant of US$3,600,000. The project is part of the UNDP-GEF portfolio in Seychelles and is implemented under a Programme Coordination Unit (PCU), and headed by a Biodiversity Programme Manager. The project started in February 2008, is of 6 years duration, and has the following Project Objective: “*Biodiversity conservation is integrated into key production sectors of the economy*”. This Objective is to be attained through the following Outcomes:

**Outcome 1**: “*Systemic and institutional capacities for mainstreaming biodiversity management within and across sectors are strengthened*”.

**Outcome 2**: “*Methods and means for integrating biodiversity and artisanal fisheries management are in place*”.

**Outcome 3**: “*The tourism industry is addressing biodiversity conservation as part of good practice in business operation*”.

Under **Outcome 2**, the Project is currently seeking an **international** **consultant** to establish the baseline for monitoring and assessment of fish stocks and co-management practices in the artisanal fishery sector on the island of Praslin.

The establishment of monitoring and assessment is of paramount importance to consolidate co-management efforts and is the key to the success of resource stewardship. Feedback and reporting is equally important in assessing the successes and failures of these co-management efforts and improving the resource conditions. Consequently, successful resource stewardship also requires partners with complementary skills and capacities to maintain a commitment to assessment, monitoring, and assessment.

The aim of this consultancy is to establish a monitoring and assessment baseline to enable the continuous monitoring and assessment of fish stock by implementing agencies and the Praslin fishers.

**2. CONTEXT**

The Seychelles is a globally important storehouse of marine biodiversity. Although the marine fauna of Seychelles remains largely unexplored, and the inventory is incomplete, recent surveys have shown diversity to be high[[1]](#footnote-1),[[2]](#footnote-2).

The fisheries sector in Seychelles is critically important for ensuring both food security and economic development. In terms of foreign exchange earnings it surpasses tourism, and accounts for 15% of total formal employment. The industrial marine fisheries have grown considerably over the last two decades, but the artisanal fisheries also remains of great importance. Small-scale artisanal fisheries exploit a high diversity of species and habitats. Total landings for the artisanal fishery have remained fairly constant for the last 20 years, but it is believed that catch rates have declined over the last decade[[3]](#footnote-3). In particular, demersal resources within 10km of the coast are believed to be oversfished[[4]](#footnote-4). The problem of overfishing stems largely from the fact that these remain open access fisheries with only a few (top-down) regulations in place concerning vessel licensing, gear restrictions and the seasonal closure of fishing grounds.

Improvement in fisheries management will require the empowerment of representative fisher groups to participate in controlling access to and managing inshore waters and marine resources. Current legislation already provides for different conservation designations in different sectors (e.g., nature reserves, fisheries reserves etc.). Fisheries co-management is a form of fisheries management under which government fisheries agencies and user groups (particularly fishers) cooperate to take responsibility for, and manage, a fishery resource. A number of fisheries co-management models have been developed in other parts of the world, but these will need to be adapted to local conditions. The Biodiversity Mainstreaming project will test and develop co-management systems for artisanal fisheries that are deemed appropriate for a participatory, rights-based management approach and that are compatible with larger biodiversity conservation objectives. However, in order to implement the co-management system, it is curial that there is constant monitoring and assessment to assess the performance of the conservation efforts.

1. **OBJECTIVES**

Establishing and overseeing the monitoring and assessment of fish stocks and co-management practices in the artisanal fishery sector on Praslin.

This consultancy directly covers Output 2.1.3*: Develop and build capacity of fisher’s associations* and it will further support Output 2.1.4 & 2.1.5; *Develop pilot co-management system for artisanal fisheries.*

### **4. ACTIVITIES/TASKS**

The two primary tasks of the assignment are to establish a baseline and a Monitoring and Assessment Plan for artisanal fishery on Praslin (activities 1-8). This will be carried out by the international consultant who will also conduct the training on baseline data collection and monitoring and assessment exercises.

The specific tasks of the assignment are to:

1. Review existing fisheries dependent and fisheries-independent data relating to the trap and line fishery around Praslin, including any other relevant environmental, ecology and socio-economic data.
2. Select and justify appropriate stock assessment method (models, reference points etc) for the trap and line fishery and implement participatory stock assessment for the fisheries.
3. Assess the present state of the trap and line fishery resources around Praslin, using appropriate models based on existing fisheries and biological data. Cross reference with current stock status assessed by SFA.
4. Identify fish stocks which appear to be heavily fished and propose conservation action (s) which might be necessary to ensure resource sustainability.
5. Conduct a 1-2 day workshop and training on status of the resource (stock assessment) utilizing existing fisheries-dependent data on the artisanal fishery on Praslin. This will target members of the PFA (and other fishers), SFA and other stakeholders on Praslin.
6. Develop and implement a fisheries-dependent monitoring protocol that complements that of SFA but recognises the highly aggregated and low spatial resolution of the current system.
7. Based on available scientific information, determine the importance of environmental degradation and how it presently affects the fishery and ecosystems.
8. Provide recommendations on management actions required to put in place effective fisheries co-management of fish stocks targeted by the Praslin trap and line fishery.
9. Conduct a 1 day workshop on status of the resource. This will target members of the PFA (and other fishers), SFA and other stakeholders on Praslin.
10. Conduct a training of trainers (2 days) workshop to provide background and tools for the handover of fisheries monitoring and assessment methods for the co-management project.
11. Identify further research and data collection needs which would be required for improved stock assessment.
12. Develop a fisheries monitoring and assessment plan.

### **DELIVERABLES / OUTPUTS (**to be discussed with and approved by the Project Manager)

1. A detailed work plan and training plan which includes activities, timing, resource needs, assessment mechanisms, etc. This needs to be discussed with and approved by the Programme Coordination Unit;
2. Provide two summary reports for the work conducted for Activities 1-5 and Activities 6-12.
3. An evaluation report on how the monitoring of fish stocks should proceed and the roles of different partners
4. A monitoring and assessment plan to enable continuous participatory monitoring and assessment of fish stocks on Praslin
5. A final mission report on the training sessions and workshops conducted, baseline data collected and monitoring and assessment of fish stocks.

**6. TYPE OF CONTRACT**

Short-term international expert contract

### **7. DURATION AND TIMELINE**

The main assignment will take place over the month of May 2011with a total estimated 25 working days. Fifteen days will be spent on Mahe discussing with the Authorities (PCU, DOE, SPA, SFA, etc) and collecting relevant data and it is envisaged that the rest (10 working days) will be spent on the island of Praslin conducting workshops and training sessions.

### **RESPONSIBILITIES AND REPORTING**

The International Consultant reports to the UNDP-GEF Biodiversity Programme Manager (PM) and working in close collaboration with the Fishery Adviser. The PM is responsible for the effective implementation of the assignment and he in turn reports to the UNDP-GEF Programme Coordinator (PC) and UNDP-GEF Biodiversity Programme Steering Committee. Final payment will be made after receipt of final and approved comments to the Final Mission Report.

### **10. QUALIFICATIONS/SKILLS REQUIRED**

1. University degree in marine studies, fisheries, ecology, and/or natural sciences
2. Proven- experience in fisheries stock assessment
3. Experience in fisheries co-management and in writing co-management plans
4. Ability to relate to, work with, and address, varied groups of people
5. Excellent written and oral communication skills
6. Knowledge of UNDP and GEF projects and procedures an advantage;
7. Fluent written and oral communication in English. Knowledge of French and Creole an advantage.

**REFERENCES:**

Selected References:

1. Bijoux J.P., Adam P.A., Alcindor R., Bristol R., Decommarmond A., Mortimer J.A., Robinson J., Rosine G., Rowat D., Talma E.S., Wendling B., and Zialor V., (2002). Marine Biodiversity of the Seychelles Archipelago: The Known and Unknown. Marine Biodiversity in Sub-Saharan Africa Workshop Report, Marine Biodiversity of the Seychelles.
2. GOS (1986). Fisheries Act (1986) + Regulations.
3. GOS (1998). National Biodiversity Strategy and Action Plan of Seychelles (NBSAP).
4. GOS (2000). Environment Management Plan of Seychelles (EMPS) 2000-2010.
5. GOS (2004). Final Report SEYMEMP: Seychelles Marine Ecosystem Management Project.
6. GOS (2005). National Capacity Self Assessment Report; Action Plan for Environmental Capacity Development. (NCSA)
7. GOS (2005). The Fisheries Policy (MENR)
8. GOS (2005). Fisheries (Reserves) Regulations, 2005
9. GOS (2005). Agriculture and Fisheries Incentives Act (2005)
10. Grandcourt, E.M. and Cesar, H., (2003). The Bio-Economic Impact of Mass Coral Mortality on the Coastal Reef Fisheries of the Seychelles. Fisheries Research 60: 539-550.
11. Mees C.C., Shotton R., and Marguerite M., (1998). An inshore fisheries management strategy for the Seychelles. Final Report of Project No. FAO/TCP/SEY/6713(A).
12. Nageon de Lestang J., (2005). Employment opportunities in the fisheries sector.
13. Nevill, J., Robinson, J., Isidore, M. Giroux, F. (2007). National plan of action for the conservation and management of sharks (DRAFT).
14. Payet, R. (2005). Resource assessment and management of the Seychelles sea cucumber fishery. TCP/SEY/2902. Final report.
15. Payet, R.A., Bijoux, J. and P.A Adam. (2005). Status and Recovery for Carbonate and Granitic Reefs in the Seychelles Inner Islands and Implications for Management. In Coral Reef Degradation in the Indian Ocean – Status Report 2005. CORDIO
16. Robinson, J., Isidore, M., Marguerite, M.A., Öhman, M.C. & Payet, R.J. (2004) Spatial and temporal distribution of reef fish spawning aggregations in the Seychelles – An interview-based survey of artisanal fishers. Western Indian Ocean Journal of Marine Science, 3: 63-69
17. Seychelles Fishing Authority (2007). Annual Report 2006.
18. SFA, Seychelles Artisanal Fisheries Statistics.
19. Shah, N.J., (ed), (1997). Seychelles National Biodiversity Assessment
20. Stoddart, D.R. (ed.) (1984). Biogeography and ecology of the Seychelles islands. Dr. W. Junk Publishers.

Selected Contacts / Stakeholders:

1. Seychelles Fishing Authority
2. Praslin Fishers Association
3. Seychelles National Park Authority
4. Environmental NGOs, e.g. Nature Seychelles, Green Island Foundation, Seychelles Island Foundation, Island Conservation Society, Marine Conservation Society Seychelles, etc.
5. Conservation Section under Department of Environment.
6. Dive operations;
7. Civil Society groups: Fishing Boat Owners Association (FBOA), Apostolat de la Mer, Divers Association, etc.

Selected Other Resources:

1. Convention on Biological Diversity (CBD), specifically thematic work on Coastal and Marine, and Island Biodiversity ([www.cbd.int](http://www.cbd.int) ).
2. World Fish Center (formerly known as ICLARM; [www.worldfishcenter.org](http://www.worldfishcenter.org))
3. Western Indian Ocean Marine Science Association ([www.wiomsa.org](http://www.wiomsa.org))
4. Fisheries Co-Management Project ([www.co-management.org](http://www.co-management.org))
5. FAO ([www.fao.org](http://www.fao.org) )
6. United Nations Environment Programme ([www.unep.org](http://www.unep.org)), including the UNEP-World Conservation Monitoring Centre ([www.unep-wcmc.org](http://www.unep-wcmc.org))
7. GEF Projects: SWIOFP, ASCLME, WIOLab
1. The West Indian Ocean region is considered to be a distinct marine biogeographical province, harbouring a high diversity of marine life and exhibiting high levels of regional endemism. Some 11,000 marine fauna have been identified, but the data set is fragmented. Some observers posit that less than 50% of species have thus far been described (Griffiths, Indian J, Mar. Sci. In press) [↑](#footnote-ref-1)
2. Bijoux et al. (2002) [↑](#footnote-ref-2)
3. E.g. Grandcourt and Cesar, 2003. [↑](#footnote-ref-3)
4. Nageon de Lestang, 2005. Employment opportunities in the fisheries sector. [↑](#footnote-ref-4)